



Mr Trevor Phillips, above, is likely to become the first black president of the National Union of Students in March following Miss Sue Slipman's announcement last week that she would not stand for a second term. Mr Phillips, 24, is a non-aligned socialist and a member of the Broad Left, which usually secures control of the top four NUS posts. It is expected to nominate two Communist Party members, Mr David Anonovich and Miss Penny Cooper as national secretary and treasurer, and Mr Alan Christie, a Labour Party member, as deputy president.

## Polys redefine power balance

The Committee of Directors of Polytechnics has been working since the summer on detailed proposals for redrawing the balance of power between polytechnic academic boards, governing bodies and local education authorities. It was revealed this week.

The work is being done by a working group of directors under the leadership of Mr David Bethel, director of Leicester Polytechnic. Its recommendations are expected to be published in the summer, when they are certain to play a big part in the public debate on implementing the Oakes report on polytechnic management.

But Mr Bethel said this week that the exercise was not intended as a counter to the Oakes proposals. It had been motivated by what the polytechnics saw as a progressive erosion of their independence following recent decisions by the Department of Education and Science of the instruments of government of some polytechnics.

The five-man group intends to analyse the detailed operation of instruments of government in all 30 polytechnics, and issue a set of guiding principles for their revision. It will not, however, draft a set of model articles.

## Spending falls short of RSG

Local authority spending on polytechnics, colleges and schools this year is not expected to reach the levels allowed for in the Rate Support Grant settlement, figures released this week in a Government Joint circular have indicated. They show that the RSG settlement was calculated at £5,318.2m and expenditure is only likely to reach £5,230.8m, £87.4m less on current estimates at 1977-78 financial year.

The settlement, says the latest circular, will allow a further growth in in-service training and induction programmes for the teaching profession. It will also take account of "some small growth in discretionary award expenditure". Fee income from home and overseas students in 1978-79 will be maintained over the year in the public sector but will not increase in real terms.

## Approval near for new fund to finance 500 more refugee students by 1980

by Sue Reid

A multi-million pound plan to increase substantially the number of refugee students in Britain is in the final stages of being approved by a Cabinet sub-committee and the Ministry of Overseas Development.

Under the major package, first conceived last year as part of the Government's proposed £120m scheme to aid more students from poorer countries at the expense of those from the wealthy, a general scholarship fund is expected to be set up to finance 500 more refugee students.

Talks between the ODM, the Foreign Office and the Department of Education and Science have been under way for nine months and the Cabinet sub-committee, which has been debating the plan, is now to place its proposals before Mrs Judith Hart, Minister of Overseas Development.

She is known to strongly favour the scheme which will be brought into full operation before 1980. It will bring the number of refugee students being financed in Britain by the Government to a new level of more than 1,500. Currently about

1,000 students a year are supported by the ODM through the World University Service's refugee scholarship scheme.

The new plan will not be administered on a country by country basis like the current WUS scheme but will be a general fund. This will allow not only the larger refugee contingents to be supported, such as the Chinese and Ugandans, but other nationalities including Argentinians, Malaysians, Ghanaians, Argentinians, Uruguayans and Indo-Chinese.

Papers outlining the scheme's details were due to be considered finally by Mrs Judith Hart before Christmas but possible legal complications were still under debate by the Cabinet sub-committee.

Meanwhile the DES has received substantial support from other Government departments, including the ODM, about the proposed scheme to finance overseas students through a system of positive discrimination.

A second sub-committee of the Cabinet is still considering this wider-ranging plan which will completely overhaul the present funding system if it is approved.

Although the scheme is highly controversial—it will wipe out all fees for 75 per cent of Britain's

overseas students and inevitably force the remaining wealthy minority to pay tuition costs of more than £2,000 a year—Mrs Shirley Williams, Secretary of State for Education and Science, is still pressing for its introduction despite opposition from the ODM.

The Joint Working Group for Refugees from Chile in Britain has told the Government its English language courses for Chilean refugees in this country have been suspended until funds are forthcoming.

In a letter to Mr James Callaghan, the Prime Minister, the group has claimed that money for the classes from the Home Office's voluntary services unit was stopped last May. It now faces a mounting deficit and despite appeals for sponsorship to the Home Office, the DHSS, the Department of Employment and the DES, it is still without cash help.

The Prime Minister has been asked to make a ruling about the issue. Mr Williams, however, has said that the Government will not be able to find employment and "are destined inevitably to become a permanent charge on the state", claims the group.

## OU considers offering full-time courses at axed college

by Maggie Richards

A proposal to offer students a period of full-time education is being considered by the Open University. It involves linking up with a defunct teacher training college to cater for 300 students.

Tentative talks are taking place about the possibility of organizing one year full-time residential and non-residential courses for Open University students, but the university has emphasized that the discussions are at a very early stage.

The proposal would involve some fundamental issues for the Open University—the need for mandatory grants to support students on such courses, and the involvement of academics in face-to-face tuition.

Initially the suggestion came from the College of St Martin's at Bristol. Teacher training at the Church of England college is scheduled to cease later this year, when responsibility for teacher education is passed to Bristol Polytechnic.

The college premises, including a well-stocked library, have been used as an OU study centre. An annex attached to the college has also been used as an OU summer school.

Under the terms envisaged for the new scheme OU students would have to gain at least one foundation level credit to be considered for the one-year course. Students gaining admission would be taught by college staff, supplemented by part-time OU tutors.

The possibility of offering students the opportunity to continue their full-time studies for a further year is also being investigated.

## More jobs forecast for graduates this year

A slightly easier year for graduates seeking work was predicted yesterday in an annual survey of graduate supply and demand carried out by a trio of careers placement organizations.

The three bodies—the Association of Graduate Careers Advisory Services, the Central Services Unit for Careers and Appointments Services and the Standing Conference of Employers of Graduates—believe that in 1978 demand for graduates will be some 20 per cent higher than last year, while only 10 per cent more graduates than in 1977 will be seeking immediate and permanent jobs.

A modest improvement in demand from the public sector is expected to be accompanied by continuing growth in demand from the private sector, and particularly from manufacturing industry.

The second year running is showing an increased demand of about 30 per cent.

Commercial employers—including bankers, retailers, insurance and building societies—are expected to recruit between 10 and 15 per cent more graduates. But there are no signs of increasing demand for solicitors, despite continued growth in the number of law graduates coming on to the market.

Some 38,000 first degree and 7,000 higher degree graduates will be competing for these jobs in 1978—10 per cent more than last year. They come from a total output of 69,500 first degree graduates and 18,500 higher degree graduates.

The number of places available is expected to be slightly higher than last year. Places for graduates in teacher training courses, in particular, will show little change, but there is a continuing over-reaction in response of teacher unemployment with a 10 per cent reduction in applications from graduates.

## Anomaly held up progress in pay talks

by Judith Judd

A major sticking point in negotiations about university staff pay during the year will be the need for an anomaly in the current academic year, the Higher Education Authority ruled this week.

The Association of University Teachers is pressing for a similar to that given to the other professions in the public sector. They argue that the promise of a pay rise for teachers is not good enough.

However, Mr Gordon, minister for higher education, the Commons last week hoped analogies were not drawn between the teachers and the freedom to debate about universities.

The made it clear that the anomaly was a wage claim, not a pay rise. The Government has been put in a position where it was at stake.

A means of guaranteed payment of the 2 which lies between these points will have to be found is expected to take several weeks. The percentage we are looking for are the ones given to the first.

The association wants to ensure to set a timetable for the anomaly issue which will not be less than the setting of new pay. However, there is no one much dispute about the which are put on these.

## Universities' gr rises confirmed

continued from page one

duced this year the grant paid in 10 instalments of £1.2m at present. In the confusion of the changes year, however, has been artificially. In fact the grant for all four years will be equal.

Of next year's increase is accounted for by the fact that the grant will be paid in five instalments.

He expects the universities' financial difficulties in the next five years to be somewhat less acute, though the UGC will still have to fight hard to win money from the Government.

Two problems especially concern him. The first is the need to recruit young staff, particularly in the sciences. He believes that during the 14 per cent expansion of universities will have to be persuaded to take on more staff in the sciences as well as in the hard-pressed arts departments.

The second is the need to replace the scientific equipment in universities which is becoming obsolete.

He believes a longer term challenge for the universities is the attraction of mature students who will use their facilities when the numbers in the 18 to 20 age group fall in the next decade.

He takes over from Professor Sir Frederick Dainton, the present UGC chairman, in October.

Commons debate

Next week  
The legal education examined by Judith Judd  
Profile of Trevor Phillips, strongest candidate to be the next NUS president  
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Gertrud Lenzer on Michel Foucault's *Discipline and Punish*

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## ILEA overseas penalty £50,000

by Sue Reid

Two London polytechnics are to have their block grant cut by £50,000 each following their refusal to reduce overseas student numbers in the current academic year, the Inner London Education Authority ruled this week.

The Central London Polytechnic has increased its enrolments by 15.1 and Thames Polytechnic by 7.1 despite an earlier ILEA decision that overseas numbers should be frozen in the colleges it funds at the 1976-77 level.

The ruling, by the higher and further education sub-committee, follows ILEA's decision to introduce a controversial new quota system to reduce overseas numbers in each of the polytechnics and colleges in 25 per cent of total numbers by 1981.

Under the latest plan, which will overturn a significantly more radical scheme to cut foreign numbers to 10 per cent of the 1981 overall student total, colleges will also be told to freeze the proportion of overseas students on any individual full time or sandwich course at one third.

But the new scheme will still have significant implications for some colleges. A report on the quota approved this week, states: "The combination of a one third ceiling on each course together with the college limit will produce a significant reduction in the overall percentage of overseas students."

Currently 21 per cent of full time students in the ILEA colleges and polytechnics are from overseas. But some institutions, including South West London College where nearly 70 per cent of students are foreign, have a far higher level. By forcing them to cut back by 1981 the overall proportion of foreigners allocated between individual authorities will be reduced.

A minor part would be met direct by the local authority itself.

As expected, the report recommends the establishment of a national body to be called the maintained higher education committee. Its job should be to "advise the secretary of state on the total share to be devoted to higher education capital expenditure and on how the agreed provision should be allocated to individual institutions."

It should also advise on the provision of total recurrent expenditure. The report suggests it might advise the Government on plans for direct grant and voluntary colleges and their financial support.

The new body should have between 25 and 30 members, eight from English local authorities and one from Wales. If Wales is included in its remit, three from the National Association of Teachers in Further and Higher Education, two from the Committee of Directors of Polytechnics and three from polytechnics and colleges nominated by the secretary of state after consulting the institutions. There will be between eight and 10 representatives of universities, schools and industry, also nominated by the secretary of state.

The 15 per cent finance target which authorities will eventually have to contribute will be reached over some years. In the first they should pay 5 per cent. At this week's meeting discussion centred on how to adjust the rate support grant in some authorities.

On the regional advisory committees the report says they should at first be established using the boundaries of the present regional advisory councils.

Any discussions about licensing fees would need to take this into account. They would also need to look at the balance between book and periodical copying. One university has provided figures showing that more than twice as much copying is from periodicals as from books.

The submission expresses alarm about the cost of the proposed blanket licensing system. In current economic circumstances the prospect of the universities having to pay an annual licence fee of 20 per cent of the subscription rates of all periodicals regularly obtained is inconceivable.

It also challenges the Whitford report's assumption that widespread copying means smaller circulation which leads to higher costs and more photocopying and warns that the future of some scholarly journals could be threatened if libraries decide to raise licence fees by cutting back on periodicals.

## Final Oakes draft foresees need for new law on pooling

by Judith Judd

Fresh legislation will be needed to authorize the new system of financing higher education proposed by the Oakes Committee, according to the committee's final unpublished report which was considered this week.

Just one of the report's 12 chapters deals with the legal problems which must be surmounted if the committee's recommendations are to be put into effect. It says it is unlikely that consultations on the recommendations could be completed in time for legislation in this parliament.

However, it recommends that nine regional advisory committees to coordinate planning the overall regional higher education should be set up "as a matter of urgency". On the proposal for a powerful new national body to control and finance higher education it says "the Government should consider whether this should be established on a shadow basis to undertake preparatory work."

The legal difficulties arise over the suggested modified system of pooling under which the national committee would pool the total cost of public sector higher education while the local authorities paid the remaining 15 per cent.

The report sneaks of "evolution rather than revolution" and makes it clear that its contents have been substantially affected by the local authorities. The committee says it has favoured the evolution of the present pooling system rather than a direct grant from the exchequer "because of local authority pressure".

It describes the new system as one "in which the major part of the cost would be pooled and met from a fixed annual sum determined nationally. It would be

in the colleges will be reduced drastically. A phased-in cutback will start next September when the colleges with up to 25 per cent of their full-time and sandwich students from overseas will be instructed to reduce their intakes to the 1976-77 level or the current year's level whichever is the lowest.

Those colleges with more than 25 per cent from overseas in the current year will be forced to cut back foreign admissions by one quarter of this year's excess. Both arrangements will have to gain Department of Education and Science approval.

Following pressure from the polytechnic directors, overseas students enrolled on courses specifically designed for them will be exempt from quotas and the same ruling will apply for foreigners attending

continued on back page

## Copyright law change 'threat to scholarship'

The university vice-chancellors have told the Government that proposals to change the law on copyright are a threat to scholarship. In a submission to the Department of Trade and the Whitford Report on Copyright the Committee of Vice-Chancellors and Principals says that it agrees that copyright law should be simplified but fears that Whitford's plans will create considerable difficulties for universities.

In particular, the committee attacks the report's proposal to remove the present freedom to make simple copies of educational material and to replace it by a licensing system. The removal of this freedom "would be generally inimical to the free communication and exchange of information and ideas on which scholarship rests".

It notes that the American Copyright Revision Act due to come into effect in January, 1978, will incorporate precisely the kind of limitation in relation to copying for "fair use" and research which the Whitford Committee seeks to end.

It also says that since most requests received by the British Library, London, Division are for copyright material produced in America, acceptance of the Whitford proposals would offer more protection to American authors in Britain than vice versa.

Though it recognises that problems have arisen over multiple copying and that the interests of the copyright holder need safeguarding the committee believes there should be exemptions if a system of licensing is introduced.

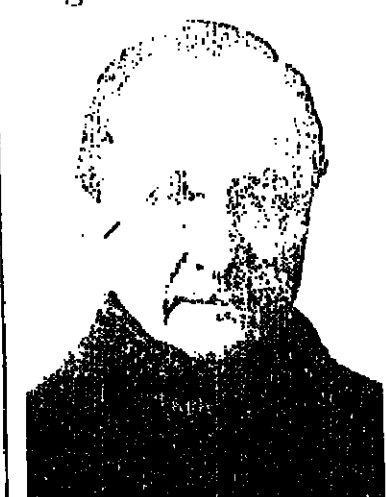
The vice-chancellors suspect that the Whitford Committee overlooked the fact that much photocopying in universities is of material which is out of copyright.

Any discussions about licensing fees would need to take this into account. They would also need to look at the balance between book and periodical copying. One university has provided figures showing that more than twice as much copying is from periodicals as from books.

The submission expresses alarm about the cost of the proposed blanket licensing system. In current economic circumstances the prospect of the universities having to pay an annual licence fee of 20 per cent of the subscription rates of all periodicals regularly obtained is inconceivable.

It also challenges the Whitford report's assumption that widespread copying means smaller circulation which leads to higher costs and more photocopying and warns that the future of some scholarly journals could be threatened if libraries decide to raise licence fees by cutting back on periodicals.

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## Post Office takes over axed training college

A Warwickshire college of education, victim of an early round of the Government's reduction in teacher training numbers, is to become a management college for Post Office telecommunications staff.

Details of the sale are currently being finalized and the Post Office hopes to take possession of St Paul's College at Newbold Revel, near Rugby, during the summer. The purchase price and alterations to the existing buildings will lead to a bill of around £2.5 million.

The acquisition of the college will enable the training of telecommunications middle management staff—currently conducted in London and several provincial centres—to be centralized.

About 8,000 students a year will pass through the college's doors for courses on general management and on various specialisms relevant to the business. The college, which has residential accommodation for 230 students, has an estate of 324 acres—250 acres of which consists of a rented farm—which was mentioned in the Domesday Book.

The estate includes a lake, woodland and pleasure grounds as well as sports facilities and a physical education centre.

St Paul's, one of the country's

Roman Catholic teacher training colleges, was founded in Selly Park, Birmingham, in 1910. During the Second World War the college was evacuated to Woodchester Park in Gloucestershire. In 1946 The Sisters of Charity of St Paul bought the Newbold Revel premises from the then owners, the Seventh Day Adventists.

Until recent years the college has been a single sex, all female, institution. About eight years ago it started taking small numbers of male students. At its peak numbers were as high as 540 but now there are only 170 students left. These include final year certificate students, those completing a fourth year of their honours BEd and some teachers attending in-service courses.

Traditionally the college's main strengths have been the training of infant and first school teachers and in the fields of religious education and English.

Among the college buildings is a mansion built early in the eighteenth century in the Queen Anne style, and listed as a building of historic and architectural interest.

The estate came into the possession of the Revell family in 1166 and later was acquired by the Malorys, including Sir Thomas Malory, author of *Morte d'Arthur*. The Yorkshire family of St Paul took over the estate in the seventeenth century.

## Advanced trade union studies incorporated at Ruskin

Four-week courses in advanced trade union studies have now been incorporated in the curriculum of Ruskin College, Oxford.

Since October, 1977, the College has been providing the courses on a regular basis although its main programme continues to be in the form of two-year diploma courses for students sponsored by trade unions.

The advanced studies course is intended to provide a study of the current political and economic context in which trade unionists operate, catering primarily for senior stewards or convenors and members of union committees.

'The idea is that trade unionists go through the normal TUC educational programme, which is arranged all over the country with the cooperation of local education authorities and WEAs. These courses are intended to go on from there and give the economic and political background to trade unionism rather than a training in working within the movement,' said Mr Billy Hughes, principal of Ruskin College, this week commenting on the college's latest report.

The report for Ruskin College for the year ending July 1977 notes that the college has become increasingly dependent on the regular receipt of income from fees and other sources because the proportion of direct grant from the Department of Education and Science has decreased in relation to total income.

Many of the 175 students who attended the college last year, with an average age of 30 years, received grants from trade organisations.

'It's time to think about population decline'

It is not too early to begin thinking about the effect of a declining population on the planning of future and higher education needs, Mr Dudley Fiske, Manchester's chief education officer, gave this warning in his presidential address due to be given to the annual general meeting of the Society of Education Officers yesterday.

'We know that the number of 18-year-olds will reach a peak of

although 55 first-year students and 63 second year students obtained DES adult education state bursaries.

The college will be looking for support from the TUC for the second part of its development plan which provides for a new block containing a new library and teaching facilities and a new accommodation for students. The estimated cost of the building is £500,000, half of which the college expects to be able to raise by itself. It is hoping that the TUC will institute an appeal on its behalf for the remaining sum.

The report expressed regret that the national debate on education which was launched at Ruskin College by the Prime Minister, Mr Jim Callaghan, was confined to the school sector.

Mr Callaghan gave the college a glowing tribute when he opened a new block. He said the college and over again. Former students include leading academics, heads of state of Commonwealth countries, leaders of the trade union and industrial life and 11 of the present Labour MPs.

Nevertheless, said the report, the great debate that followed was exclusively confined to the school sector and ignored the relevance of recurrent education continuing throughout life. Mr Billy Davies said earlier this week that the great pity was that adult education in particular greatly needed the airing of a public debate.

'We really need to try to get across the concept of continuing education because at the moment only specialists know what it means. We need to decide whether priority should be given to mature students who have reached a stage in their lives when they know they want to get a proper education or whether it should continue to be given to adolescents.'

The main theme of Mr Fiske's address was an exploration of the way in which the work of child education officer has changed during the past two decades. Among the forces that have altered the context of their work, he cited, the growth of party politics in local government, reorganisation, growing student pressures, a swelling body of legislation and general contraction of the education service.

## Oxford is top of research grant table

Oxford, Cambridge and Sussex—the universities which obtain the highest proportion of their income from research grants and contracts—were in 1974-75, according to figures released by the University Grants Committee.

The percentage of Oxford's income which came from such grants was 21 per cent. The figure for Cambridge and Sussex was 19 per cent.

In Scotland Edinburgh topped the list with 14 per cent of its income coming from research grants followed by Glasgow with 12 per cent.

The full figures for the English universities are as follows:

University	Amount	% of income
Oxford	4,843,512	21
Cambridge	4,622,755	19
Sussex	1,520,449	19
Birmingham	2,882,089	15
Southampton	1,699,500	15
London	1,537,871	14
Newcastle	1,713,188	14
Nottingham	1,572,887	13
Essex	478,826	12
York	539,107	12
Leeds	1,994,558	11
Lancaster	744,024	11
Loughborough	648,249	11
Warwick	648,570	11
Manchester	2,175,515	10
Sheffield	1,287,661	10
Liverpool	933,571	10
UMIST	1,439,463	10
Surrey	744,162	10
Brunel	528,045	9
Burton	396,167	9
Durham	488,526	9
Kent	340,935	8
Bath	318,819	8
East Anglia	410,375	8
Lancaster	357,454	8
Aston	456,674	8
Bradford	449,658	8
Exeter	373,607	8
Salford	472,109	8
City	297,772	8
Hull	307,814	8
Keele	139,735	8

Statistics of Education Vol. 5: Universities is published by HMSO £8.75.

## Coventry merger plan approved

Mrs Williams, Secretary of the Coventry College of Education, has finally approved plans to merge Coventry College of Education with the University of Warwick.

Her decision brings to an end a long period of uncertainty which has seen plans for the continued independence and expansion of the college being replaced by proposals first for a merger with the university, then with Lancaster Polytechnic, and finally with the university again.

A letter formally approving the merger from April 1, 1978, has been sent to all the interested parties including the local education authority.

## Manchester chaplaincies hope to raise £10,000

The chaplaincies of higher education in Manchester have launched an appeal to support their work. The nine chaplaincies from all denominations are hoping to raise £10,000 to help provide welfare and counselling services for students. No public money is used by the chaplaincies. The appeal will be aimed primarily at staff and ex-students.

## CEI seeks power over degrees

by Sue Reid

The Council for Engineering Institutions has called for full powers to set university and polytechnic engineering degrees, in a confidential submission to the government's committee of inquiry into the engineering profession.

The council, the watchdog of engineering standards, has told the inquiry, chaired by Sir Monty Finlayson, that although the entry requirements for engineering degree courses should be the responsibility of individual institutions the awards should be accredited by the CEI.

In evidence destined to provoke an angry reaction from universities and polytechnics, the CEI says: 'The degrees awarded, if intended to give exemption from the CEI examination, should be accredited by the CEI after the degree courses have been assessed by the appropriate member institutions. Accredited institutions should be reviewed at not more than five year intervals.'

All chartered engineers needed to study mathematics, physics and chemistry to GCE ordinary level and at least A level in two out of the three subjects.

Before embarking on engineering degree programmes students should attain a knowledge of science and mathematics, although the level would differ from course to course and depend on the specialisation within the engineering field to which the student aspired.

The evidence goes on: 'As is already the case in both medicine

and architecture practical training should be integrated with degree courses, whether conventional three year degree courses, sandwich courses, four-year degree or part-time courses. The total period of instruction should not be less than five years, of which at least 18 months should be spent on practical training away from the academic institution.'

Proper monitoring of practical training, as already practised by some member institutions of the CEI, should be a requirement of all future engineers. It would, claims the council, help students if they became industry based not later than the third year of their formal education and training.

If practical training was to be properly carried out it would place additional work loads on the universities and polytechnics and some financial provision through the Department of Education and Science should be made for this.

'In addition students should be considered to be in statu pupillari through the whole period of their education and training, and cannot be expected to command as high a wage as those not undergoing training,' says the evidence. Many aspiring engineers were not currently fulfilling the training requirements for this reason and some inducement in the form of 'topping up' training grants should be made available.

In general the academic level to which technician engineers and technicians had to be educated would be lower than for chartered engineers but the amount of practical training would have to be greater. The council also calls for a framework of education and training to allow technicians to become technician engineers and achieve chartered status.

## Physics rises to third in popularity

by Judith Judd

Many more children took A levels in physics, chemistry and biology in 1976/77 according to the annual report of the Joint Matriculation Board out today.

Though the board says it would be premature to suggest that there has been a swing back to science, physics, chemistry, history and geography to become the third most popular subject.

The numbers taking physics went up by 7.8 per cent, those taking chemistry by 8.9 per cent and those for biology by 8.7 per cent. The increases in 1976 were much smaller and in the previous year there was a small decline in physics and chemistry.

General studies remained the most popular subject with an increase of 8.5 per cent over the previous year. It was followed by English literature, physics, history, geography, chemistry, biology, mathematics, economics and French.

Although physics is still taken mainly by boys, the proportion of girls taking it rose slightly. In chemistry the increase came more from girls.

The board was disappointed by the numbers taking engineering science and physical science which went down. There were small increases in the numbers taking arts and social science.

The entry for French was the largest since 1972 but those for Italian and Russian were lower than in the previous year.

On A-level grades the report says that the guidelines laid down by the Secondary School Examinations Council in 1960 giving approximate percentages of candidates expected to gain each of the various grades have served their purpose 'reasonably well'.

However, the narrowness of the Grade C band which can be of importance for university entrance has been criticized.

The report gives details of entries from adult candidates for the first time. There were 26,000 of them, the oldest being an 86-year-old taking an A level.

More candidates than ever before took JMB O and A levels in 1977.

## Artists honoured

It has been announced that Henry Moore the sculptor and Sir Hugh Casson, President of the Royal Academy, have accepted invitations to become honorary governors of the Norwich School of Art.

## Graduating 'only a stage' in lifelong learning

by Jane Feinmann

Further training after graduation is an essential part of education today, the vice-chancellor of London University said this week. In an address, due to be given at the presentation day ceremony at the Royal Albert Hall yesterday, Sir Frank Hanley said that the value of a degree from London University had been fully demonstrated by the range of employment secured by its graduates.

'But,' said Sir Frank, 'the education you have received is but the beginning of a life-long process of education and training, and re-training if necessary.'

'It is through postgraduate study that we gain a deeper understanding of scholarship and by research that we add to knowledge and understanding for the benefit of all.'

All our masters and doctors are emphasizing by their work that we can individually and collectively do much to improve the quality of life. Enhancement of material well-being is important for us collectively, for the individual.

The evidence points out that in the near future between 600 and 800 chemical engineering graduates a year will be required by industry. This requirement, says the ICE, could be increased with advantages to industry by a wider use of chemical engineers, especially in smaller companies, process industries, government and administration.

The governing bodies of local adult education institutes are to be far more widely representative of their local community following a decision expected to be taken by the Inner London Education Authority's education committee this week.

Wider representation will become possible through amendments to the instrument and articles of the governing institutes. These were approved last July but put up for amendment after consultations indicated that the new government structure would fail to be fully representative of local communities.

Now each institute will have to

consult its borough council on the organisation and bodies appointing governors' representatives of local interests. In addition each council will be able to appoint one governor directly.

Discussing the committee's decision, Mr Peter Clynne, ILA's assistant education officer for community education and careers, said that they were seeking the views of the borough councils as to which type of voluntary organizations represented a strong voice in the community.

The committee is also at present exploring with unions the representation on the institutes' governing bodies of non-teaching staff such as media and clerical officers and catering staff.

## Local communities to have more say at adult institutes

by Patricia Santinelli

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## MODERN LANGUAGES RELATED STUDIES

An exciting opportunity for teachers/lecturers currently serving in British secondary/tertiary establishments to exchange their post for a year or a term with a colleague in

## FRANCE GERMANY SPAIN

Benefits of this official in-service training scheme include:  
• Secondment on full UK salary with all pension and social security rights safeguarded.  
• Incremental credit.  
• Cost of living grants:

FRANCE:	Year £1,820	Term £807
GERMANY:	Year £1,865	Term £855
SPAIN:	Grant of £123	

\* Dependants' grants for full year exchanges (France and Germany).  
\* Return second-class travel for exchange teacher (financial assistance to make preliminary visit) (France and Germany).  
\* Induction Course. Teachers' pack.

Your pupils/students will have the advantage of being taught by a native speaker while you are away. You will have the chance to renew your fluency in the language you teach and update your knowledge of the country. Your post is secure in your absence. Full details and application forms (please specify country) available from:

Teacher and School Exchange Department (ref: Eur/x/EG).

## The Central Bureau for Educational Visits and Exchanges

England and Wales: 43 Dorset Street, London W1H 3FN. Tel: 01-489 5101. Department of Education and Science.  
Scotland: 3 Bruntsfield Crescent, Edinburgh EH10 3HD. Tel: 031-447 8024. Scottish Education Department.

Northern Ireland: Rathgall House, Balloo Road, Bangor, Co Down. Tel: 0247 66311. Department of Education for Northern Ireland.



# Science sees through the Northern Lights

by Simon Midgley

British space research has unveiled some of the scientific mysteries of the Aurora Borealis, the Northern Lights, during the past three years. This is one of the highlights of the work of the Scientific Research Council's Appleton Laboratory during 1974-76.

In its triennial report on the Laboratory's activities the former director, Dr John Saxton, says: "The nature of the processes that combine to produce the phenomenon of the aurora has been clarified considerably following measurements of charged particles made principally from Skylark rockets launched from Norway."

In the 1976 campaign the three-stage Skylark rocket was used for the first time, taking scientific payloads to 700 km altitude at the same time as measurements were made by smaller rockets at lower heights. The rockets carried many experiments built by university and Appleton Laboratory scientists.

Upper atmosphere winds in the aurora were also measured using sodium clouds released from payloads provided by University College London on rockets, and tracked from the ground with the Appleton Laboratory laser radar (lidar). During the three years the laboratory, whose researches include managing various space science projects as well as designing and operating the data-handling systems that bring to the scientists the information obtained by their experiments, has greatly expanded its

activities in running Britain's scientific space programme based on the use of earth satellites, rockets and balloons.

Another key feature of the laboratory's programme, which includes basic research in astronomy, the study of the earth's atmosphere and applied research in radio propagation, is the measurement of atomic oxygen in the lower ionosphere.

In conjunction with the University College of Wales (Aberystwyth) Appleton Laboratory scientists have devised a spectroscopic technique using rocket-borne ultraviolet lamps for measuring purposes.

The information gained from several Skylark flights has made possible important advances in upper atmospheric science.

The Ariel V satellite launched from Kenya in 1974 and still working well has enabled scientists from British universities to keep in the forefront of X-ray astronomy.

The Ariel V Control Centre at the Laboratory commands the satellite and distributes the received data to the university scientists whose experiments are on board the satellite.

The Laboratory's astrophysical research division at Culham has used data from rockets and satellites to study the sun's corona and has developed a theory of how the recently discovered "holes" (lower temperature regions) in the corona are linked to the outflowing stream of particles known as the "solar wind".



Professor Adam Neville has been appointed next principal and vice-chancellor of Dundee University. He will succeed Professor James Brewer, who is retiring this September.

Professor Neville has been professor and head of the department of civil engineering at Leeds University since 1968. He is a graduate of London University. After lecturing at Manchester University he was appointed professor of civil engineering and dean of the faculty of engineering in University College, London, Nigeria.

In 1962 he went to Canada as professor of concrete technology in the University of Saskatchewan and later as dean of the faculty of engineering in the University of Calgary.

## Polytechnics' progress 'excellent'

The polytechnics in their relatively short existence have made excellent progress in establishing themselves as comprehensive academic institutions, Mrs Williams, Secretary of State for Education and Science, said in the Commons last week.

She expected them to make the major contribution towards the expansion of about 39 per cent envisaged for higher education other than teacher training in the non-university sector by 1981-82.

Mr Bruce Garscott (Leichfield and Tamworth, Lab) complained that polytechnics were concentrating on full-time courses to the exclusion of part-time and day release students.

However, Mrs Williams pointed out that part-time courses increased in the polytechnics by 41 per cent between 1971 and 1976 although they had not increased proportionately largely because of the rapid expansion of sandwich courses which much of the House thought a good form of higher education.

Mr Oakes told the Commons this week he expected the first scholarship scheme for students on engineering courses to be awarded for the academic year 1978-79. Details of the scheme would be worked out by a small committee which Mrs Williams was setting up.

## Social science suffers academic drift

The drift of academic staff away from universities is already making some disciplines and may increase, Professor L. C. B. Gove, vice-chancellor of Southampton University, says in his annual report.

He cites the example of the university's faculty of social science. In his report Professor Gove, who is the faculty's dean, mentions the loss of a leading academic to Holland.

"This is yet another reminder that British universities are increasingly competitive in the international market and that this applies as much to the social sciences as in other fields."

"There is little that this university alone can do to make the British university system more attractive but relative to other universities the apparently poor promotion prospects in social science make this university unattractive to many junior members of staff."

Professor Hilton says that some age of staff has already led to a change in the pattern of teaching in some departments.

They are moving towards the North American model with large formal lectures and little direct student contact.

## Librarians puzzled by limits of new Copyright Act

from our own correspondent

WASHINGTON

A comprehensive new Copyright Act has come into effect in the United States this month. It replaces the legislation of 1909, now hopelessly outdated after 70 years of technological change.

Although the old law was generally agreed to be inadequate, the replacement which Congress finally passed in 1976 after 12 years' argument, has brought new confusion to the American academic community—and left academic librarians worried about what is allowable.

The trouble with the Act is its general impression and its many grey areas that probably will be clarified only after years of court rulings.

For example, although the Act puts out in the statute book for the first time the doctrine of "fair use", it fails to define this phrase exactly. Generally, the doctrine allows copying without permission or payment for "purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship or research."

To make life easier for school and university teachers, representatives of educational organizations, led by Mr Sheldon Steinbach of the American Council on Education, agreed with the Authors' League of America and the Association of American Publishers a set of "minimum guidelines" for fair educational use of copyrighted material.

According to the guidelines, teachers may make single copies for research or instruction of one chapter from a book, one article from a periodical, one story or poem or a single illustration.

Multiple copying for discussion or classroom use is allowed if it meets tests of "brevity, spontaneity and cumulative effect". The brevity limit is 10 per cent of the work or 500 words of poetry and 1,000 words of prose.

Multiple copying is limited to nine occasions a term for any one course.

Unfortunately, by devoting all their attention to the private word, the educational watchdogs failed to notice the implications of the section of the new Act that deals with music copyright.

Last autumn, when they did realize their "inadvertent error," as Mr D. P. Fine, executive vice-president of the National Association of College and University Business Officers (NACUBO) called it, the educational organizations rapidly

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## Budget boosts science research funds

from our own correspondent

WASHINGTON

President Carter believes the United States government is spending too much on basic research. He has cut the fiscal year 1979 budget for the National Science Foundation (NSF) by 10 per cent, a big cut in a field of technological change.

The President wants federal agencies to spend \$3,600m supporting basic research next year—up 10.9 per cent on 1978 level, but in real terms, on the 1976 level.

At the President's science adviser, Dr Frank Press, said: "Academic researchers will benefit significantly from this growth." About half of the United States government's expenditure on basic research goes to university departments.

Dr Press said the extra funds were "intended to encourage innovative research and to assist in ameliorating some of the problems currently associated with the performance of research in colleges and universities, such as the growing obsolescence of equipment and the lack of opportunities for young investigators."

At a science budget press briefing, he declined to forecast how many new posts for academic scientists might be created, but he hoped that, as well as directly assisting research, the money would have the indirect effect of encouraging universities to establish more academic posts for young scientists.

The federal government's total spending on research and development in higher education in the fiscal year 1979 (which starts in October, 1978) will be \$3,500m, up 7.3 per cent. About 40 per cent of this sum represents applied research, mainly medical, whose funding shows no real growth.

The budget emphasizes one particular research initiative for 1979: a 40 per cent increase in support

for climate research. This will come from the existing climate research budget, which is a special account in the oceans and atmosphere and is not subject to the effect of cuts in the climate.

Higher education's share of the Department of Health, Education and Welfare's (HEW) budget next year will be \$1,000m, up 6.1 per cent. The bulk of the money—\$1,000m—will be spent on student financial aid.

However, the most significant item in this area comes not in the HEW budget but in a special account of the President's Budget, the "allowance for contingencies." It is an additional \$200m which will provide further aid to students from middle income families through conventional programmes, but through the tax system.

This money will be used by the Administration to fight moves in Congress to help middle-class students by allowing them or their parents to offset some of their tuition costs against income tax (ITTS, January 13).

The Budget document spelled out the Administration's two main objections to the tuition tax credit: "First, the form of assistance that was under consideration by Congress would be paid as a direct federal subsidy, not as a credit against income tax."

President Carter is expected to give details of HEW's proposals to help middle income students meet college bills in the education measure he is planning to send Congress next month. However, HEW insisted this week that they had not yet decided exactly how to fit the \$700m for middle-class aid into their existing student assistance programme.

Although the federal government gives colleges and universities very little direct institutional assistance—as opposed to student and

research grants—the 1979 Budget includes for the first time \$300m for construction and renovation. It will be used to help institutions, colleges, structural barriers to handicapped students.

In addition, the Commissioner of Education, Dr Ernest Boyer is requesting authorization to lend colleges and universities \$10m to make their buildings, energy efficient and meet environmental, health and safety laws.

The grants and loans were the government's first step towards helping higher education with one of its most vexing problems, the renovation of plant and equipment, said Dr Boyer.

Elsewhere in the federal Budget President Carter is seeking authority to spend \$1,000m on a further expansion of training and work experience programmes for America's unemployed young people.

In his State of the Union address in Congress last week the President reaffirmed his intention of working with Congress to create a separate Department of Education. But the Administration has not yet decided on the scope and responsibilities of the new Cabinet-level department. Higher education interests are generally adopting a cautious attitude to the proposal.



President Carter: more for experimental work

## Bonjour, voici Cox et Box

A major initiative to provide further education students on business courses with a basic working knowledge of foreign languages begins this autumn.

This decision by the Business Education Council stems from employers' complaints that few office workers are able to deal with simple telephone and written inquiries from overseas buyers.

Initially students will have the choice of French, German, Italian and Spanish, with the proviso that other languages, including Russian and Arabic, could be offered.

The new courses will be open to full-time students on national or higher national diploma courses, but they will only be allowed to choose them if they already have C level or CSE Grade 1 in English. Higher national diploma students with a foreign language A level will be able to study two languages during their two year course.

Mr John Sellers, the BEC's chief officer, said that it had to be made clear that they were not setting out to train interpreters.

At higher national level they should be able to conduct telephone discussions in their chosen language, take part in simple technical discussions and be able to write translated summaries of letters or conference proceedings.

## Mr Boaden moves on

Mr Bill Boaden, education secretary of the National Association of Teachers in Further and Higher Education, has been appointed director of the centre for Information and Advice on Educational Disadvantage (CED).

He will take up his new appointment after Easter when Mr Colin Roberts, CED's current director, returns to his duties at the Department of Education and Science. Mr Roberts was seconded from the Inspectorate to establish CED.

Mr Boaden has been in his post at NATFHE since January, 1969. He has worked in industry and commerce, including underground mining, before going into the youth employment service.

He was Chairman of the British Association of Settlements Adult Literacy Project and is now chairman of the Council for Educational Advance and a member of the National Committee for Adult Literacy.

At NATFHE he is responsible for all the major educational policy sub-committees within the association.

CED was set up by the DES's educational disadvantage unit following the 1974 White Paper "Educational Disadvantage and the Educational Needs of Immigrants".

## Age factor 'a threat to research'

by Judith Judd

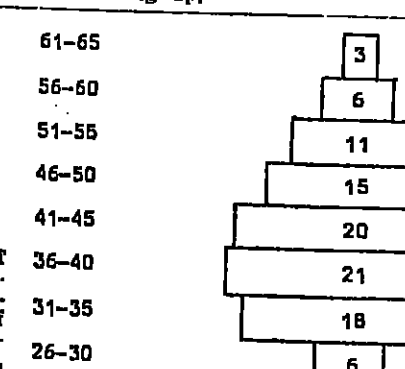
The average age of academic staff is rising steadily with possibly disastrous effects on research, Professor R. N. Haszeldine, principal of the University of Manchester Institute of Science and Technology, warned last week.

In a speech to the university court Professor Haszeldine said that 20 per cent of UMIST's staff were more than 50 and 55 per cent more than 40. There were not many in the 61-65 region.

If recruitment continued at the present ridiculously low level there was the possibility that 50 per cent would be more than 50 in 10 years' time with disastrous effects on UMIST's research activity.

"The recruitment of top young lecturers is a matter of top priority as soon as we can afford to employ them. It is truly tragic that young gifted people have been and continue to be denied the opportunity of entering the academic profession."

He said the area most severely under threat in universities was research. The new postgraduate fees



(e) 1st Oct. 1977

>50 20%  
>40 55%

had seriously interfered with post-graduate education.

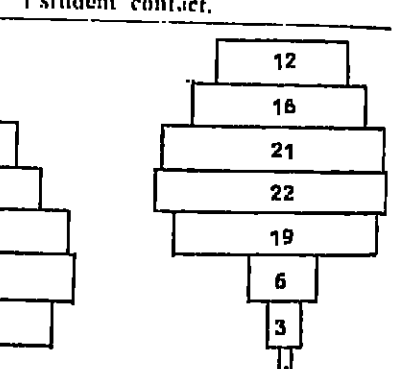
The new high fees combined with the high cost of materials and equipment for research meant fewer industrial grants were available, although UMIST still did relatively well.

"A fall-off in quality of British university work would affect future generations of scientists and technologists and through them the wealth-creating section of the country."

There is still time to devise a fee structure which does not act to the disadvantage of both student and university by making it difficult or impossible for industry, particularly medium-sized industry, to invest in the wealth of talent, creativity and innovation and experience that can be found in a university like UMIST.

Another threat to research was excessive attention to relevance. A technological university needed to carry out long-range as well as short-range research of quality.

He said that the institute might well have a deficit of £195,000 in mid-1978, but it should be solvent by mid-1979.



(f) 1st Oct. 1987

(Projection)

## Charity plea on overseas fees

by Sue Reid

The present fee charges facing overseas students in Britain discriminate against the poorest, the Department of Education and Science has been warned in a special submission by six charities.

The Group of Six—made up of Child Poverty Action Group, Help the Aged, Oxfam, Shelter, War on Want and the United Nations Association—has claimed that not only do these differential fees discriminate between home and overseas students but between those students from rich and poor foreign nations studying in Britain.

It is, they allege, a type of discrimination disapproved of by the education world and for which there is little parallel in Europe.

In evidence to the DES the Group of Six says: "Since many of the overseas students that come to this country are from poorer countries we are discriminating against them in particular as we use our fees to pay for their education."

They advocate an immediate policy change so that overseas students' fees are set at different rates for those from richer backgrounds—a situation caused either through private or government sponsorship—while poorer students pay only the basic course rate.

"This would bring overseas students into line with home students, who are wholly subsidized by the state and others—the more wealthy—have paid their fees paid by their families."

The Group of Six maintains that the admission of students should be based on educational and not on immigration grounds. The present immigration laws operated against the poorest privately financed students because they failed to persuade immigration officials that they could afford the fees. Commonwealth students could not be deported after five years in Britain and therefore their application to study here was viewed as a means of obtaining residence.

A claim that the courses taken by overseas students bear little relevance to the needs of their native countries is also made in the submission, entitled The Future of Overseas Students in Britain. This, says the group, is particularly true of some courses run by private colleges and advertised in newspapers abroad.

They call for changes so that courses offer skills and qualifications relevant to developing countries.

The Future of Overseas Students. Available from: MacKlin Street, London, WC2, price 50p.

## News in brief

Dr Eileen Byrne, Education Officer of the Equal Opportunities Commission, is to keep her job after a decision in her favour by a panel of three commissioners appointed to hear her appeal against unfair dismissal.

GEC men give lecture

The 1977-78 Faraday Lecture, which aims to interest people from outside the profession in the work of electrical engineers, will be given at Savoy Place, London, on January 31 and February 1, 2, and 3.

Organized by the Institution of Electrical Engineers, this year's lecture on light sources and their uses will be presented by Mr Robert Clayton, technical director of the General Electric Company Limited.

Mr Howard Losy, managing director of GEC Electronics Devices Company and Dr Stephen Cuddehead, of the Optical Communications Department, GEC Hirst Research Centre.

Surrey appoints fellow

Mr Peter Prince, the Open University's regional director in the South East, has been appointed an honorary visiting fellow by Surrey University.

## System 'serves high-ability students best'

A vast new study of the American students over the past decade concludes that many recent trends in higher education have had negative effects on them.

The study, by The Cooperative Institution Research Programme, has been carried out by Professor Alexander Astin, of the University of California at Los Angeles with support from the American Council on Education.

The United States is noted for its gigantic educational research projects but, according to Professor Astin, this is the biggest long-term investigation ever of the effects of higher education. Data on 200,000 students at 300 colleges and universities of all kinds were analysed.

The results indicated that private rather than public universities, small colleges rather than big ones and single sex rather than coeducational institutions had the most "positive effects" on students in terms of degrees, careers and changed attitudes.

For more than 20 years most of the growth in American higher education has been in public institutions, campuses have grown bigger and single sex colleges have gone coeducational.

Professor Astin is critical of the way open admissions policies—bringing students with poor academic records into college—have been implemented. The traditional American entrance criteria of test scores and grades still predict college achievement very successfully, and few students with poor school records do well, he says.

The conclusion he draws is that "the American higher education is designed for high-ability students", and colleges have not developed programmes adequate for the needs of less well-prepared young people.

Most of the latter go to two-year colleges which, Professor Astin says, have a poor record in educating school leavers who want to go on to take a bachelor's degree.

Only 43 per cent of students entering two-year colleges with the intention of transferring to a four-year institution and obtaining a degree actually succeed in doing so, the study found: 80 per cent of private and 72 per cent of public university students successfully graduated with a degree.

Professor Astin said two-year community colleges provided important services in the fields of part-time, adult and technical education but "for a vast number of 18 and 19-year-olds they provide the illusion of opportunity and very little more than an illusion."

His study, *Four Critical Years*, is published by Jossey-Bass of San Francisco.

## MIT opens \$10m engineering appeal

Massachusetts Institute of Technology is launching a \$10m appeal to fund for "an urgently needed curriculum renewal effort", 30 or 40 new teaching appointments and new research projects in its School of Engineering.

The funds will enable engineering, the biggest of MIT's five schools, "to maintain a position of international leadership in the engineering world", the institute says.

The attractiveness of its programmes to students is causing problems for the school, according to MIT. Undergraduate enrolment is climbing from 1,800 in 1976/77 to an expected 2,200 in 1978/79, and there are 1,950 graduate students. The volume of research is growing, too.

The academic staff, which has remained constant at 340 for a decade, is therefore having to cope with an excessive workload. Laboratories are overloaded and in need of renovation and re-equipment.

The three best medical schools in the United States are those of Harvard, Johns Hopkins and Stanford universities, according to a survey of 2,049 medical teachers. This study was conducted by two Columbia University sociologists and funded by the National Science Foundation.

Medical top three

The regulations propose that staff must inform their department head in advance of all such activities. Use of university facilities must be approved beforehand and paid for afterwards. The university President would be allowed to suspend "a faculty member who by reason of involvement in outside professional activities fails to discharge properly his responsibilities to the university."

Simon Fraser University's faculty association and board of governors have agreed a new policy that requires the 40 academic staff to disclose annually all regular work that goes beyond their university responsibilities.

Constitutional research

The University of Notre Dame in Indiana is to set up a Centre for Constitutional Studies to provide legal scholarship on constitutional issues affecting independent higher education in the United States.

## Guidelines aim to establish agreement on outside work

British Columbia's three universities are establishing firm guidelines for academic staff who get involved in outside professional activities.

The moves follow public controversy in the province about professors who have allegedly devoted an excessive proportion of their time and effort to money-spinning non-university activities.

At the University of British Columbia, the province's biggest, the faculty's university committee has recommended that the 2,500 academic staff should generally be allowed to engage in outside activities for up to one-fourteenth of a calendar year (26 days).

But the committee to outside work could be doubled to one-seventh of a year "where a faculty member's performance in university responsibilities is outstanding or when the outside activity would enhance the competence of faculty members or be of benefit to the community."

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More confidence

Public confidence in American higher education has increased dramatically in the past year. The gain in confidence, according to a Louis Harris public opinion poll, was shared by most of the nation's major social institutions.

Loan defaulters

The Department of Health, Education and Welfare, which has used computer matching to identify 316 of its own employees who defaulted on government guaranteed student loans, is to extend the search to all federal civil servants.

## Are we slaves of the system?

Adorno—one of the most provocative of the Frankfurt School of Sociology—certainly thought so.

But in New Society's series, 'The founding fathers of social science', David Held shows that Adorno was no pessimist. Or not entirely.

## NEWSOCIETY

OUT TODAY 25p







# NOTICE BOARD

## Chairs

Dr W. J. Albery, lecturer at the physical chemistry laboratory, Oxford, has been appointed to the chair of physical chemistry at Imperial College, London, from September 1, 1978.

Dr M. G. Elder, reader in obstetrics and gynaecology at the Charing Cross Hospital Medical School, has been appointed to the chair of obstetrics and gynaecology at the Institute of Obstetrics and Gynaecology from April 1, 1978.

Mr A. Silberstein, fellow and dean of Nutfield College, Oxford, has been appointed to the chair of economics at Imperial College, London.

Dr A. J. L. Bassett has been appointed to the chair and headship of the department of French and Romance studies at the University College of North Wales, Bangor.

Dr John E. Smith, reader in the department of applied microbiology at the University of Strathclyde, has been appointed to a personal professorship within the department.

Dr Jeremy Mison has been appointed to the chair of crop science in the department of plant sciences at Leeds University on July 1, 1978.

Dr R. M. Hurstall has been appointed to the chair of artificial intelligence at Edinburgh University with effect from October 1, 1977. Dr Hurstall previously held the chair of artificial intelligence in the university department of artificial intelligence.

Dr Philip Sutcliffe, the senior lecturer in restorative dentistry in the University of Edinburgh, has been promoted to the chair of preventive dentistry.

Professor Kurt Alberti has been appointed to the chair of clinical biochemistry from October 1, 1978, and also to the headship of the department of clinical biochemistry for five years from October 1, 1978. Professor Alberti will succeed Professor A. L. Tait, who retires on September 30, 1978.

Dr C. J. G. Wright, research fellow at All Souls College, Oxford, has been appointed to the chair of logic and metaphysics at the University of St. Andrews, Fife. He will take up his position on October 1, 1978.



Dr Jeremy Elston, the new professor of crop science at Leeds.

## COURSES

### PLYMOUTH POLYTECHNIC

#### EDUCATIONAL TECHNOLOGY

**CMAA DIPLOMA**  
One-year full-time course integrating all aspects of Educational Technology. Development of a portfolio is a required part of the course. Commences September 18th, 1978.

**POLYTECHNIC DIPLOMA**  
One-term full-time course for teachers, lecturers, etc., wishing to develop Educational Technology in their own institution. Commences September 18th, 1978.

The courses are housed in the Hoe Centre which has full technical studio facilities and is situated between the City Centre and the sea. Applications as soon as possible to The Registrar, Plymouth Polytechnic.

Drake Circus, Plymouth, Devon, PL4 8AA



The Open University has awarded honorary doctorates to Sir Charles Curran (left) and Professor Harold Wiltshire (centre). Mr Jack Ashley, MP (right) has been awarded an honorary master of arts by the OU.

## Honorary degrees

**Dundee**  
The following will be awarded honorary degrees on July 14:  
LLD: Mr Mark Raymond Benham Carter, former chairman of the Community Relations Commission; Dr Donald John Kuenen, rector of the University of Leliden and professor of ecology; Mr David Fleming McCurrah, chancellor's assessor; Dr Patrick Dunne, Ritchie, Young professor emeritus of chemical technology, Strathclyde University.  
MMed: Miss Judy Feden Greig, secretary for students administration in the department of medicine until 1976.

**Open University**  
The following are to be awarded honorary degrees: Sir Charles Curran, former director general of the BBC; Sir Charles Groves, resident conductor, Royal Liverpool Philharmonic Orchestra since 1963 and associate conductor of Royal Philharmonic since 1968; Professor R. V. Jones, professor of natural philosophy at Aberdeen University famous for his wartime defence intelligence work, particularly the discovery

of the Luftwaffe use of "Kittlchen" (crooked legs) navigational beams in locating bomb targets. Dr Otto Peters, has held chairs in general didactics and methods of distance study, the latter of which was at Germany's own distance learning university, Fernuniversitat, in Hagen. Dr Kenneth S. Robinson, director of the Commonwealth Studies Resources Survey at London University. Dr Cicero Saunders, member of the MRC and founder of the St Christopher's Hospice in Sydenham, London. Professor Harold Wiltshire, emeritus professor of adult education at Nottingham University and vice-president of the Workers' Educational Association and the National Institute of Adult Education. Professor Michael Wise, professor of geography at the London School of Economics. The late Dr Ernst Schumacher, who until his death was chairman of Intermediate Technology Development Group Ltd.

The following have been awarded honorary masters of arts: Mr Jack Ashley, MP; Mrs Ida Upa J. Dillon, founder of Dilworth bookshop; Mr A. L. Lloyd, folklorist, and this year's supervisor of postgraduate studies in King's College, London; Mr Thomas Findlay Johnson, curator of collections in the department of earth sciences, Leeds University; Mr

Jack Singleton, producer of Open Forum for OU students; Mr William Devereux, director of the Adult Literacy Resource Agency; Mr Alderman Fred L. Harris, currently chairman, South West Regional Advisory Council; Mr Robert H. Lilley, editor of the Belfast Telegraph; Dame Donald John Kuenen, rector of the University of Leliden; Dr Cicero Saunders, member of the MRC and founder of the St Christopher's Hospice in Sydenham, London. Professor Harold Wiltshire, emeritus professor of adult education at Nottingham University and vice-president of the Workers' Educational Association and the National Institute of Adult Education. Professor Michael Wise, professor of geography at the London School of Economics. The late Dr Ernst Schumacher, who until his death was chairman of Intermediate Technology Development Group Ltd.

The following will receive honorary degrees on April 14:  
BSc: Mr John B. Adams, director general, 300 Gov Accelerator Project, CERN.  
LLD: Mr A. Ross Belch, managing director of the Scott-Living Group, Greenock and Port Glasgow; Mr Peter Boon, chairman, Hoover Ltd; Mr William B. Duncan, deputy chairman of ICI Ltd; Mr Alastair Dunnett, chairman of Thomson Scottish Petroleum Ltd; Mr Peter Hommings, administrator of Sydney Opera House, Australia.  
LLM: Emeritus professor S. G. E. Lythe, professor of economic history at Strathclyde University until 1976.

## News

A national competition for slide/tape and filmstrip programmes is being organized by the British Industrial and Scientific Film Association, called Slide Strip 76. Entries are invited from organizations based in the United Kingdom in the following three categories: Single projector, twin projector and filmstrip presentations. Closing dates for entry is June 1, entry fee, £25 plus VAT per programme, BSAF, c/o Filmstrip, 155 plus VAT, Paul, details from Frances Robb, BSAF, 26 D'Arbly Street, London NW1 7AY.

Sponsors are being sought by four North East London Polytechnic students who are planning an expedition to Naardam in the uninhabited island of Naardam in the Bay of Bengal. The search for a rare species of Hornbill whose survival is at stake. It is likely that there are less than 200 of these birds in existence and the rapid destruction of their habitat, the island's forests, has increased the danger. The inclusive cost of the trip is expected to be around £2,000. As well as raising this sum, the students are still waiting permission to enter the restricted area of Naardam.

## Forthcoming events

"Can Television Educate?" an inaugural lecture by Professor H. R. Cullen, professor of education at Queens University Belfast, will be delivered on February 1 in the New Physics Lecture Theatre of the university.

"Selection for Post-Primary Education in Developing Countries", a workshop organized by the Department of Education in Developing Countries, will be held at the University of London Institute of Education from February 1 to 3. Speakers will include Professor Ron Dove, Professor Reg Honeybone, and Dr Roy Sumner. Further information from Ron Dove, Institute of Education, 20 Bedford Way, London WC1H 0AL.

"Crime and Punishment" by Joanna Kelley, former governor of Holloway Prison, "The Unions Role in Britain's Recovery", by Alan Fisher, general secretary of the National Union of Public Employees, "Freedom of Information", by Professor John Givens, Nottingham University, "The Silencing of Women's Emancipation" by Professor John Givens, Nottingham University, will be held respectively on February 7, 14, 21 and March 7, in the lecture hall of the polytechnic's Ladbroke House, Highbury Grove, London N5.

"More Bad News", by Paul Walton, of Goldsmiths' College, London, and "Mass Communications and Cultural Studies", by Stuart Hall, University of Birmingham, are the titles of two meetings of the British Sociological Association Mass Communications Group, to be held on February 3 and 22 at City University, St John Street, London EC1V 4PB.

"Policy Makers' Use of Social Research", by Sir Keith Joseph, MP, and "The Ethics of Social Research", by Professor C. Whelan, are the titles of two seminars organized by the Association of Research Organizations, to be held respectively on February 2 and 16 at County Hall, South Bank, London. Further details from Janet Lewis (Social Research Seminars), Centre for Street, London WC1N 3LS.

"Projects in Tertiary Education: A Theme and Variations", a one-day conference organized by the Staff Development Unit of Manchester, will be held on February 8 at the polytechnic. Papers will be given by Dr Eric Hewton, Education Development Group, and Dr A. A. Sandhu, assistant director and dean of sciences, Wolverhampton Polytechnic.

## Grants

**Loughborough**  
Chemical engineering—Dr G. Mason: £25,818 from the SRC for research into the mechanism of rising damp in buildings; Mr R. Scuderi and Mr A. S. Ward: £36,840 from the SRC for investigation of seawater studies for the Sea oil research in co-operation with the Heriot-Watt University.

Chemical engineering—Dr G. Mason: £11,790 from the SRC for research into the mechanism of rising damp in buildings; Mr R. Scuderi and Mr A. S. Ward: £36,840 from the SRC for investigation of seawater studies for the Sea oil research in co-operation with the Heriot-Watt University.

Civil engineering—Mr J. A. Pickford: £14,600 from the Department of the Environment Building Research Establishment for research into the disposal of effluent from septic tanks in development.

Electronic and electrical engineering—Dr A. P. Clark: £8,349 from the Ministry of Defence for research into aspects of the Department of Agriculture and Fisheries for Scotland; Dr J. W. Rourke: £15,324 from the SRC for research into reliability trends and causes of breakdown of numerical control machine tools.

**Newcastle upon Tyne**  
Medicine and clinical biochemistry—£50,414 from the Wellcome Trust, the North of England Campaign for Cancer Research and the MRC for research into thyroid-stimulating antibodies in Graves' disease and thyroid cancer under the direction of Dr Bernard Rees Smith of the department of biochemistry and Professor Reginald Human of the department of medicine. Wellcome Trust for a period of two years research into the association of histocompatible antigens and carried out under the direction of Dr D. F. Roberts.

**Oxford**  
Royal College of Physicians—£50,000 from the Leverhulme Trust for research on the prevention of cerebral palsy in children under the direction of Professor P. M. Thord, Fellow of Jesus College, at the John Radcliffe Hospital.

**Noticeboard is compiled by Patricia Santinelli and Milla Goldie**

## Appointments

### Universities

**Heriot-Watt**  
President of the Watt Club Dr Johnston.

### Oxford

Lectureship: Mr Birger Gebert, F.D., Professor of New Testament in the University of Hamburg, appointed to Hensley Lectureship in Theology 1978-79.

### Bangor, University College, North Wales

Director of Welsh Office research on delivery of social services: Dr G. W. B. Grant; Lecturer: Dr J. F. Ferrar (plant biology).

### Aberystwyth, University College, Wales

Honorary professorial fellow: Dr J. Walker (botany and microbiology); Professor Dennis V. Lindley (botany); Honorary College Fellow: Peter N. Pusey (chemistry).

### Strathclyde

Lecturers: R. A. Frost (computer science); J. K. Swales (economics); Betty Bostako-Amma (food science); Rebecca M. M. W. (law school); R. M. E. Richards (chemical technology); Kathleen (physiology and pharmacology); J. Hilly (Scottish hotel and restaurant management); I. D. Forster, Gardner and M. Smith (architecture and building science); D. M. (biology); C. E. Gould (electronic and telecommunications); R. M. (pharmaceutical technology).

### Polytechnics

#### North London

Press and information officer: Jo Wragg.

### OU programmes

**January 28**  
**to February 3**  
**Sunday January 29**

10.00 "Continuation to the Old" (pp. 1-2)  
10.00 "The Pre-1914 Old" (pp. 1-2)  
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Students flock to take law courses despite a debate about practice and theory. Judith Judd reports

## A stable option in changing times

Legal education is booming. In 1971 the Ormrod Committee on legal education suggested that there should be 2,000 law graduates a year by 1980. The Law Society now reckons that the figure will be just twice that. A recent survey of the entrance requirements of universities and polytechnics carried out by Mr Brian Heap shows that the pressure to get on to law degree courses has pushed up the qualifications demanded. Like medicine and accountancy, law is considered a stable option in changing times. It provides a happy compromise between the vocational and the academic which students feel will protect them against the uncertainties of the job market.

The compromise looks less happy from the viewpoint of professional and academic lawyers. The problem of reconciling practice and theory is at the heart of most discussions about the future of legal education. Behind it is the relationship between professionals and academics, increasingly smooth, according to the official bodies which represent the former, uneasy at best according to many of the latter.

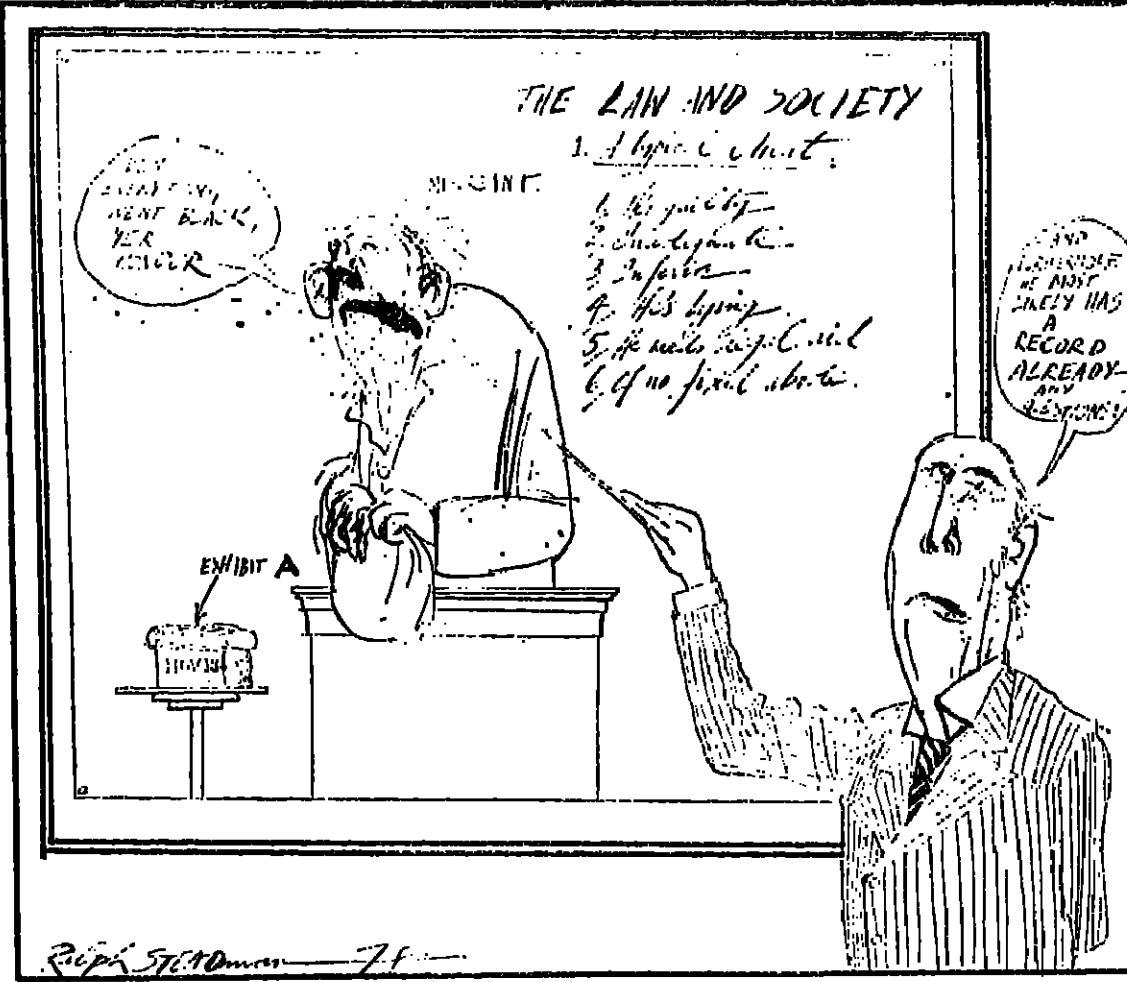
The most recent attempt to grapple with the difficulties was made by the Ormrod Committee which reported in March, 1971. The report recommended that apart from special cases of the fellows of the Institute of Legal Executives and mature students, all entrants into the profession should be graduates. Normal entry should be by a law degree followed by a one-year vocational course in an institution of higher education instead of the Part II courses held by the Law Society and the Council of Legal Education. A barrister would then serve a year's pupillage and a solicitor three years as an assistant solicitor. The report said that the replacement of articles by the vocational course "affords the best hope of raising the general standard of training throughout the country."

The Bar, long committed to an all-graduate profession, went its own way. Plans for a diploma in law at City University and at the Polytechnic of Central London in 1977-78 went ahead. The Council of Legal Education argued that it was impossible to defer the course any longer. The future of the common professional examination was referred back to the Bar and the Law Society and the diploma for students without law degrees who wanted to come to the Bar was established. But work on a common academic stage of legal education has recently been resumed in the Common Professional Examination Board.

On the question of the vocational stage of training to follow the diploma or a law degree, however, the Bar dissented from Ormrod. In its submission to the Royal Commission for Legal Services the Council of Legal Education expressed this view. "The Council believes that the universities and polytechnics have already fully engaged all their available resources in meeting the demand for academic degree courses, a demand which exceeds the supply to a greater extent in the field of law than in almost any other academic field."

The Council emphasised that it was not in favour of the Bar's established practice of training students. As Mr Charles Morrison, dean of faculty at the School of Law, puts it: "We feel we are much closer to what is required in practice."

Even so, Mr Morrison feels that the reform of the vocational stage will go a long way to meet the recommendations of the Ormrod report. Greater emphasis will be placed on practical training. The vocational course will be extended for six weeks and most of this time will be devoted to practical training. Students will have to do a project on advocacy and drafting and practical exercises will be taught in smaller classes.



ment that goals outlined in the report have not been reached.

Solicitors and barristers have differed in their response and, at this moment, are curiously out of step. By far the largest number of those who receive legal education become solicitors. In 1976 the Law Society issued 31,250 practising certificates. By comparison, there were only 3,881 practising barristers. Ormrod proposed a common course and examination for those entering the profession with a degree in a subject other than law, whether they intended to be solicitors or barristers. All was set for the introduction of a common professional examination in 1978 when the Law Society changed its mind. Pressure from its members who preserved a strong attachment to the idea that the door should remain open to school-leavers led to a statement from the Society that the time for the all-graduate profession had not arrived.

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The School of Law has created a senior post to help develop the practical exercises. The Council of Legal Education contends that "no university or polytechnic would have been able to change the whole course of its legal education with so small a staff and such slender resources while continuing at the same time to teach and examine large bodies of students."

The response of the solicitors to Ormrod has been more cautious than that of the barristers. Mr John Warren, secretary of education and training of the Law Society, says: "The Ormrod report is a well thought through. The implication for practical training was a high pupil/teacher ratio. There simply are not the teachers to do it," says Mr Warren.

Ormrod argued for the replacement of articles by a one-year vocational course. Such a step would have brought law into line with other professions since no other group has its own schools or colleges. From the first the Law Society opposed the surrender of vocational training to the universities and polytechnics. However, it did embark on a vocational scheme to replace articles and a pilot course was scheduled to begin at the College of Law in Guildford in 1975.

Before it began, the profession was consulted and emphatically rejected the idea. One of the reasons may well have been the fact that realising the initial subsidy for each solicitor would only have been £5 it would obviously have gone up as the number of pilot courses increased. There was also a feeling that people who had not spent a moment in a solicitor's office should not qualify as solicitors.

Mr Michael King of Warwick University believes that some type of government funding is essential if real reform of legal education is to come. He argues that if the reform of the vocational stage exceeds the supply to a greater extent in the field of law than in almost any other academic field. The Council emphasised that it was not in favour of the Bar's established practice of training students. As Mr Charles Morrison, dean of faculty at the School of Law, puts it: "We feel we are much closer to what is required in practice."

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polytechnics partly because they felt the hold of the Law Society on legal education should be broken. The Law Society says that it does not want monopolistic rule and points to the seven polytechnics which will teach the new final examination which has been devised since the profession turned down the pilot vocational course. Polytechnics were chosen instead of universities says Mr Warren because it was felt they had a more practical bent. The society was also anxious that there should be a good geographical spread of courses on offer throughout the country. He says it would probably be cheaper to train everyone at the society's colleges. The society genuinely feels that it can offer a better training than academic institutions. The Law Society also believes that real reform has been possible within the existing system. The new final represents a considerable step in the direction of the Ormrod recommendations. "It is different because the exam is based on the course rather than vice versa. It is also more practical as Ormrod suggested."

Mr Woodroffe disagrees that any significant change has been made in the new examination. He says that the course has just been packaged differently and given different labels. For instance the section on "the solicitor and his private client" covers conveyancing, wills, probate and administration.

Would the transfer of the vocational stage to academic institutions which Ormrod advocated lessen the influence of the professions over legal education? This is the argument of those academics who see the professions as a barrier to reform. But the view is not shared by all. Professor Patrick McAuslan of Warwick University believes it is unrealistic to suppose that the practitioners can be excluded from the vocational training stage.

The effect which the profession has on courses in universities and polytechnics is a matter of debate. The fact that a student must study six "core" subjects in his degree is a result of the influence of the Law Society. The Law Society's resources but in general entry has remained unlimited. Mr Morrison says: "The Bar is still an open door profession unlike medicine where entry is controlled by the numbers who can be accommodated in medical schools." He has the impression that more of the students reading for the Bar in the last few years went to practice.

What of the future? The Bar and the Law Society feel that the latest changes in their contribution to legal education will make a significant difference to the quality of lawyers' training. Their critics are unhappy that the academic stage will still be taught in the Law Society's own school, that it will last for only a year and contain only six subjects and that the vocational course for both solicitors and barristers will be taught by the professions. Legal education remains where it has always been, firmly in the hands of the professions.

Council of Legal Education was that the universities have three years in which to teach the basic legal knowledge while the professional schools have only one in which to teach students how to apply it.

The issue of core subjects is a small one compared with the feeling that academics have been dominated by lawyers in the aftermath of the Ormrod report. Professor Geoffrey Wilson of Warwick University believes that the two will never be able to regard themselves as equals until the pay of academics has been drastically improved. The question of status is vital. The difficulties of the relationship between lawyers and academics lies in the fact that they move in different social worlds, he says. The answer lies first in improving academic salaries, and secondly in more social contacts rather than formal machinery. Then the lawyers might listen to the academics.

Mr Warren contends that they already do. He says that the Cross Committee, designed to bring academics and lawyers together has been useful. "Many people would say that the advice of academics is consistently ignored by the profession. I don't think that is true. I think the committee has improved relationships."

There have been disagreements within the committee. While all the professions' representatives are in favour of the academic stage of training to consist of six subjects and to take one year, only two of the eight academics agreed. The rest backed the Ormrod recommendation of a two-year course with eight subjects.

The professions' support of the one-year course was influenced largely by financial considerations. Grants for students training to be lawyers have become increasingly problematic in the past few years. Between 70 and 75 per cent of law graduates reading for the Bar receive local authority grants, but the treatment of non-law graduates differs from one authority to another. In 1975-76 about 40 per cent of them received grants. This is now going down as authorities cut back on all discretionary awards. A few have actually classed the Bar's vocational stage as a postgraduate course and have refused to make awards for it.

The Law Society equally concerned about the position over discretionary grants. It believes that there is a serious danger that those in the middle income group will be unable to enter the profession which will be limited to the very poor and very rich.

The professions would not wish their numbers to be controlled in this way, but they are alert to the problems posed by ever-increasing numbers of law graduates. In its evidence to the Royal Commission, the Law Society says that on the basis of Ormrod's calculations, some 3,000 law graduates will seek to enter the profession each year by 1980. "Whether the profession can absorb and continue to absorb such numbers is very much open to doubt." So far, says the Society, there is little evidence that the Department of Education and Science is planning to increase the number of law graduates. It will not wish to obtain a legal professional qualification.

Mr Warren says that a crunch is coming. There will not be enough places for everyone with a law degree on the final examination course.

The Bar is less worried than the Law Society about increasing numbers. In 1969 it restricted the numbers of overseas students registering for Part I to avoid flooding the Council of Legal Education's resources but in general entry has remained unlimited. Mr Morrison says: "The Bar is still an open door profession unlike medicine where entry is controlled by the numbers who can be accommodated in medical schools." He has the impression that more of the students reading for the Bar in the last few years went to practice.

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# Broadening the NUS image

Profile of Trevor Phillips, tipped as the next president

Trevor Phillips, the hot tip to become the first black president of the National Union of Students, has been closely identified with its new approach to a "more open style" which its own members and the search for clearer objectives in dealing with the Government.

Although he has not announced his candidature yet, it is widely expected that he will be elected at the union's Easter conference in London. Sue Shipman who has announced she is not standing again.

Born in Islington, Mr Phillips received most of his secondary schooling in Guyana, before coming back to London to take a chemistry degree at Imperial College. Unlike many student politicians, he finished his degree before he stood for a political post. "It is quite a strong tradition among West Indians," he explains, "that before you start getting anything at all, you have to get your paper in your hand and at least have something you can rely on. That was very strongly drilled into us as children."

Not being a political full-timer, though, didn't stop him from becoming involved in setting up a society to represent school students interests when he was at secondary school in Georgetown.

Over the last year, the NUS has been reappraising its public image. "A few years ago, organization of students and militancy were becoming objects in themselves rather than means to be used to persuade or force the Government to concede on various things," Mr Phillips says.

"What we are trying to do now is to develop a much more effective conception of our relationship to Government and to other national organizations, particularly youth organizations, in the sense that we want to set objectives which are clearly realizable within our own positions and also to strike alliances with youth organizations and win those objectives, particularly with Government."

While these changes are all part

of a single process designed to make the union more effective, Mr Phillips says, that they were not part of a grand plan to do something that simply developed in practice.

This may well be true, but could it also be a response by the ruling class to the fact that the union is a member-to the growing strength of right wing groups? Mr Phillips tends to agree. "The reason Conservatives were able to make progress," he says, "was simply because many students unions were really slams of unions, in a sense. To a large extent he thinks they were being used as tools of the union leadership."

It is fair to say that students were fed up, so they reacted and voted for what many of them saw as a radical new force that could help to change things in the NUS.

In underlining the force of the new regime, Mr Phillips doesn't mind criticizing one or two old sacred cows of the Broad Left. Until recently, the organization was firmly committed to the idea that general meetings should be sovereign in deciding the policy of the union. But, Mr Phillips believes, "the reliance, totally, on the general meeting system in many colleges means that a lot of students don't have any chance through opinions, because not too many can get up the courage to speak. One of the things I am hoping we'll be able to do in the next couple of years is to create a more open society, in a sense, without abandoning any of the old ideas."

Personally, one of the union's main campaigns is on the student grant system, described by Mr Phillips as "so byzantine that there is a whole myriad number of people who suffer because of the complexities of it."

The union's biggest success over the past couple of years has been the abolition of married women's grants and the extension of man-



Trevor Phillips: coy about his candidature.

awards to HND and OND courses. But now Mr Phillips feels that unions must concentrate on disciplinary awards and the abolition of the means test.

On tuition fees, he was relieved that the level of the fee had not gone up as much as it might, but unhappy with the lack of Government action to review or change the structure. "My own feeling is that we've got two areas to work on: one is generally on the fee structure, how can we move towards a phased abolition of tuition fees, and secondly, how we can deal with the problem of overseas students, particularly those from the Third World countries, which won't be solved simply by abolishing fees."

The overseas students question is close to his heart. Grants can play a part, which is not one he has really addressed himself to is that if you have a system of open access for everybody, it will always be easier for students to come from Europe and

North America to come to Britain, and in that sense the students from the third world countries will be squeezed out."

So he admits to being in favour of a degree of positive discrimination towards third world students. In its educational policy, the NUS has long called for a "comprehensive system of post-school education". What is that, exactly?

"One of the great things of the last year," says Mr Phillips, is that we've begun to examine a lot of the slogans we've thrown out over the last four or five years, and put some meat on them."

He explains comprehensive post-school education in length, identifying the key concept as "diversity". The intention is to "provide opportunities for all people who have some level of either vocational training or personal development courses through the part-time route as well as through the full-time route."

The "planned diversity" would be achieved by a National Council for Further and Higher Education, which would include the universities in its planning. Compulsory day release and, of course, changes in the grant system, are among other proposals to achieve the objective.

This comprehensive system would involve increased Government spending across the board, not just on excellence in higher education, though Phillips is quick to point out he is not against the role that universities can play.

The NUS is paying a great deal of attention to adult education in general. Trevor Phillips explains that the expanding sector of the union's membership is in the field of further education, and that this is also the "politically dynamic section". This, he believes, will have a fundamental effect on the union's operation in the next few years.

"We've always regarded adult education as a 'Good Thing' but we haven't really developed an attitude towards it, and even now we are still grappling with that problem. Within the framework of education, continuing and recurrent education is a big feature, and that inevitably means supporting concepts like the Open University and part-time study of all kinds because if you are looking for a mass system

of post-school education, it is going to be the important route. On educational affairs, we have adopted a more open approach. I think the policy which we regarded as 'imperialist', which in my view was rather in advance of the level of consciousness or awareness of our membership in general."

Although many students are always identified with the more radical aspects of the internationalist campaign, Phillips says, "I think it was really conducted at a level, which engendered a suspicion among students."

Now, the priority is to develop those aspects of internationalism as the exchange of information with other national unions, the education systems, NUS still has its solidarity campaigns, notably South Africa and Palestine, but Phillips says "I think we've got to develop a dimension which is not just solidarity but looks at the concept of human rights in its broad sense."

The most important campaign of the union next year, "it may be, personally bias but I think is politically correct"—will be racism.

"If we can really create an atmosphere around that campaign, and bring into the activities of the union people who hitherto haven't been involved, then I think we are going in the right direction."

It is interesting, perhaps, to note that the changed attitudes on the part of the NUS leadership has resulted also in a new glossary of stock phrases. "Quite politically correct"—a favourite phrase of his—was used only once in the course of an hour. The new emphasis is on words like "I think" or "in a sense". "I think" is a phrase which is at least marginally more in-skin-deep.

As yet he is still refusing to admit to his candidature but should a "favourite" romp home at Easter, it could prove to be a challenge year ahead for him.

Kasper de Graaf

THE TIMES HIGHER EDUCATION SUPPLEMENT 27.1.78



The Technician and Business Education Councils, by Patricia Santinelli

## Two part revolution of 1960s comes to fruition

In the late 1960s a revolution in further education was heralded by the recommendation in the Haslegrave report that two new councils should be set up to mastermind technician and business education. But only now, nearly a decade later, is the impact of the Technician and Business Education Councils beginning to be felt.

The TEC and the BEC were created in 1973 and 1974 respectively as a result of the 1969 report. The Haslegrave committee itself had been established two years before by the National Advisory Council in Education for Industry and Commerce with a brief to examine further education provision for intending technicians—workers in the grade between qualified scientists and engineers, skilled foremen and craftsmen—in industry.

Technician Education Council

### Meeting needs of industry

The role of the Technician Education Council is to set standards, validate courses, award qualifications and generally promote the advancement of technician education and enhance its status. Its aim has been to create a more flexible and simplified range of technician courses eliminating unnecessary duplication without reducing the opportunities available to students or ignoring industry's needs.

At the heart of the TEC's courses are four qualifications—the certificate and higher certificate and diploma and higher diploma—each obtainable through study based on a unit credit system. Emphasizing flexibility, students are able to qualify through either full or part-time, day release or block release, sandwich or evening study. Special provision has been made for external students—the handicapped for instance—who cannot attend college regularly.

A cornerstone of the TEC's policy is to give students from 16 upwards as much "credit" as possible for previous relevant study and attainment whether in school, college, training or employment. Minimum entry requirements to the lower level courses are CSE grade 3 in maths and science and no student can gain exemption from more than half the units in any programme.

The council itself is a registered limited company financed initially by a 100 per cent deficiency grant from the Department of Education and Science. In 1976 its budget was £325,000. Today it has reached £517,000, £400,000 of which has come from the deficiency grant and the remainder from student registration fees.

The council hopes to be self-supporting by 1980 entirely through student registration revenue. Last year 7,000 students were taking TEC courses but now there are an estimated 40,000, each paying a registration charge of £15 a year.

Gradually, then, the TEC will lose DES financial support. By 1980, when 200,000 students are expected to be studying for TEC qualifications, all of its income will accrue from its own students. By 1982 there will be 300,000 students in TEC courses bringing revenue up to an estimated £4.5m.

The majority of today's students are on the lower level certificate and diploma courses.

Since its inception the main task has been to devise and approve study programmes which are published in unit form for use in colleges. The council operates through two key committees—education, and resources and organization—and three sector committees, A, B and C which cover, respectively, the three main disciplines with which technician education is broadly involved—engineering, construction and science. Under these are the 22 programme committees which cover individual subjects such as computer engineering, fuel technology, maritime studies and the life sciences.

Specialist panels have been appointed to advise them, often on peripheral subjects that do not actually fall in their own right to TEC awards. However, there is scope for the panels to develop into full programme committees if there is demand for an award in that particular subject. These panels cover, for instance, tribology, planning, costing and industrial relations.

Responsibility for the validation and coordination of art and design courses below degree level has also been given to TEC.

The role of the sector committees is essentially one of co-ordinating policy. They also produce guidelines on admission requirements, programme structures, and assessment for use by the colleges.

In addition to dealing with the production of standard units the programme committees validate, monitor and assess programmes produced by individual colleges or groups of colleges. So far 1,500 programmes for more

than 300 colleges have been validated and 300 standard units produced. By 1982 5,000 programmes will have been validated. The validation guidelines of the TEC require that every programme proposal has to be prefaced by a clear statement of its objectives, including the knowledge and skills which it aims to impart to students and the career to which it is related. Each scheme must include a syllabus and a proposed method of assessment.

The council has to be satisfied that the college has both the staff and resources needed to run the programme. It takes national and local needs into account and urges colleges to consult local industry, their own local education authority and other interested bodies. Validation approval is normally given for a five year period initially.

An element of general and communication studies, which can be assessed, must be included in college programmes either as a full unit of study or part of one. Overall, these complementary studies should maintain the TEC, from at least 15 per cent of any programme leading to a certificate or diploma.

Programmes are composed of compulsory units taken by all students, optional units selected by students but representing a topic necessary to gain an award, and a third category of supplementary units to allow greater breadth or specialization. A full unit represents approximately 60 to 75 hours of study and the council maintains that all programmes leading to the same awards should have the same number of units. This ensures a national currency and allows movement between programmes.

Until now students on City and Guild courses planning to enter higher education or take other qualifications have had problems in moving because of the great proliferation of schemes. The TEC system allows different units to lead to the same award. For example a student can take a certificate course in mechanical engineering through a very practical or more academic route.

The ordinary certificate programmes usually involve three years of day-release study or equivalent, an accumulation of 900 hours. Students have to gain 12 TEC units and the standard is equivalent to the former ONC awards. A lower level diploma involves two years of full-time study and students need 25 units. It has the same currency as the OND, which is now being phased out.

The higher TEC certificates require another two years' day-release study and an accumulation of a further eight units. To gain a higher diploma students take 16 units over a two-year period of full-time study. These qualifications are equivalent to the HNC and ONC awards.

An important aspect of the awards system that is central to TEC's existence is recognition from professional bodies, universities and polytechnics.

The council is striving to achieve its aims through an ongoing process of consultation with an education, a research and a finance committees. Under the education committee are four boards responsible for designing and approving courses of study within particular subject areas.

The first—the business studies board—oversees courses of a non-specialized nature for students planning careers in a wide range of commercial, manufacturing or service organizations. The financial studies board is

National Committee for Certificates in Office Studies, each reconstituted as ad hoc committees of the BEC.

These awards included the ordinary and higher national certificates and diplomas in business studies, the ordinary national certificate in public administration and the various certificate qualifications in distribution and office studies.

The existing technician courses superseded by the TEC's programmes were considered unsuitable by Haslegrave because they failed to take account of the changing nature and structure of industry. They had also ignored the impact of the Industrial Training Act of 1964 and the training boards on industry. Business education courses had been criticized for their lack of relevance and their academic content. A more vocational element was called for by Haslegrave.

Business Education Council

### English skills the keynote

The Business Education Council is a registered limited company, too, but unlike the TEC it is already financially solvent in its own right. It draws its revenue solely from the registration fees of students. However its potential income is much smaller than the TEC's. In the financial year ending September 1977, its fee revenue reached an amount of £330,000. Until March, 1976, the council received a deficiency grant of £91,000 from the DES bringing its total income in that year to £440,000.

So far its income has been used to develop new courses and run the inherited programmes. But from this September only newly devised courses will be run, although arrangements will continue for those students still studying on the programmes being phased out.

The courses leading to BEC awards have been designed for those aiming at professional business qualifications and to provide knowledge and skills for those hoping for careers in business and public administration. They are essentially vocational courses aimed at the needs of both students and employers but with a strong bias on English language skills and work experience. Every BEC course contains a "core" of compulsory interrelated modules designed to meet the objectives of the appropriate subject board of the council. These are primarily aimed at allowing students to transfer from one subject area to another with ease.

The BEC has decided that there are four areas of knowledge and understanding necessary right across the business world. These are a comprehension of people, money, the ability to speak and write clear, simple English and familiarity with numbers and technology. Everyone gaining a BEC award at an intermediate level or above has to show in their assessment an understanding of these central themes.

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## History charts eighty years of technology at Chelsea College

A growing awareness that Britain's industrial supremacy depended on a sound system of technical education led to the founding of the Chelsea College of Science and Technology in 1891. Sixty years later, a similar sense of the need to improve higher technological education prompted changes which led finally to the emergence of Chelsea College as a school of the University of London.

The lowly beginnings of the college, as an institution designed for the poorer inhabitants of the Metropolitan Police and its efforts to win university status are charted in *Chelsea College—A History*, edited by Harold Silver and S. John Teague.

Publication of the history also marks another important step for the college, coinciding with the start of its move to a new site at Springfield in Wandsworth.

Demand for the creation of the South-Western and other London polytechnics stemmed from the reality that Germany and the United States of America were fast establishing a foothold in traditionally British markets. It was recognized that the foreign challenge was based, to some extent, on superior education—especially in the technical field. The most rapidly advancing nations were the best educated ones.

A member of the Royal Family, laying the foundation-stone of a technical college in 1881, summed it up: "We are beginning to realize that education must be placed within the reach of the British artisan in order to enable him to hold his own against foreign competition."

The founding of the South-Western was brought about by a campaign in 1888. The Charity Commissioners offered to donate £50,000 provided a similar sum was raised in the district.

The proposed polytechnic institute was to provide technical and commercial schooling and science and art classes for 5,000 students over the ages of 15; recreation facilities including gymnasium and lecture and reading rooms; and day and evening instruction for pupils

aged 13 to 15, following their elementary school education. Fees were to range from one shilling to £6 per week.

The foundation stone of the college was laid in July, 1891, by Edward VII, the Prince of Wales, but because of difficulties in collecting the balance of the £50,000 being raised by public subscription, the first classes did not begin until 1895.

At its first day sessions, the college offered science and a variety of other technical, evening classes ranged from mathematics, natural sciences, and engineering to art and music. Recreational classes included education and gymnastics.

From the outset Chelsea attracted the white-collar workers, rather than the "poorer classes" for whom it had been designed. This led to a commitment to more advanced levels of work, a point noted during the debate on the 1898 Bill to reform the University of London when R. B. Haldane reported "one case in South London where a polytechnic teaching the application of mathematics to electricity in a higher teaching of the university."

The polytechnic's first successes in examinations are recorded in the college's second annual report, and by 1907 there were 85 day internal London degree students.

Some thought, still had to be convinced that forays into higher education fell within the legitimate province of the South-Western and the other London polytechnics.

A Royal Commission on university education in London during the first decade of the twentieth century revealed a widely held view that, since universities catered for middle-class students, the role of the polytechnics was to support

Even the LCC's chief education officer felt universities were institutions for making officers, and polytechnics were intended to cater for the rank and file. He did concede, however, that they

might produce "the most capable rank and file in the world."

The 1920s and 1930s witnessed a gradual strengthening of the traditions of high-level work, hampered mainly by financial restrictions which have a familiar ring about them today.

One change accomplished with ease was an alteration of title. In 1922 the South-Western became Chelsea Polytechnic. Though its name had been localized, the college was becoming increasingly more metropolitan in character, along with the other London polytechnics. Improved transport in the city, together with growing pressure for scientific, technical and professional qualifications led to rationalization.

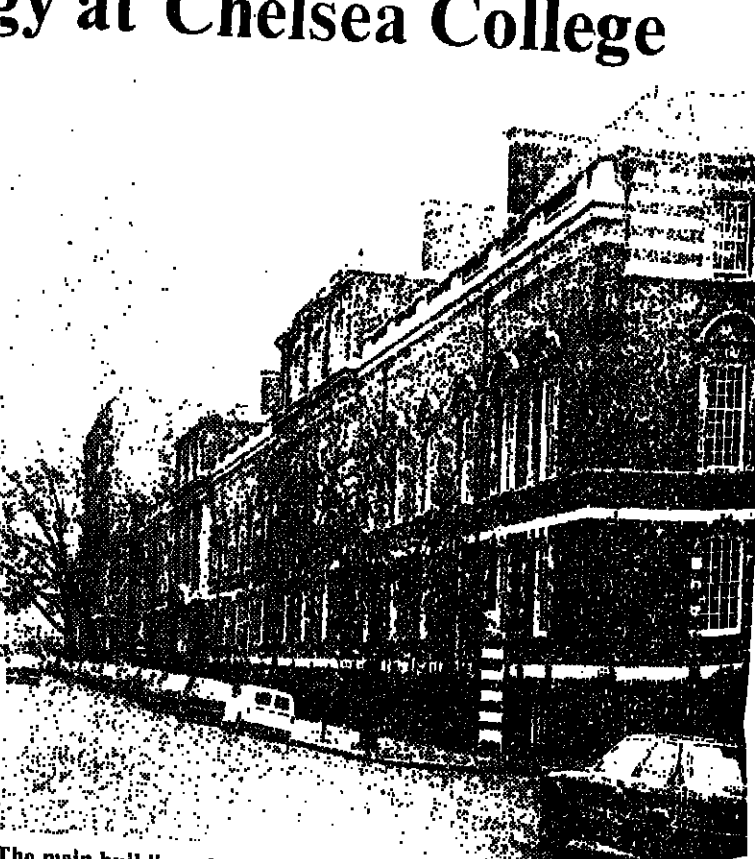
Work in all but two of the polytechnic departments continued during the war, but post-war accommodation difficulties led to the establishment of the college of physical education at Eastbourne. From the mid-1940s, in response to continuing pressure to upgrade the college and to provide more space for science departments, courses which were seen as "non-university" began to be dropped.

In 1956, following representations from the governors, Chelsea was designated by the Minister of Education as one of eight colleges of advanced technology, and in 1959 the college's largest extension was opened.

The new wing did not solve accommodation problems, however, and a search was instituted for temporary premises in the locality. The situation did not ease the long-term need to provide a new home for the college on a single site.

After the Robbins Report of 1963, which recommended that the colleges of advanced technology should, in general, be designated as technological universities, the search for a single site began in earnest. A visit to Hertfordshire stimulated 18 months of detailed negotiations, but the protracted discussions came to nothing.

The University Grants Committee had suggested to the Government that instead of becoming an independent university, Chelsea should



The main building of Chelsea College at Manresa Road.

seek a link with the University of London. The college governors, disappointed that the Hertfordshire proposals had been failed, the Secretary of State Mr Anthony Crosland, felt the college could still develop and near its existing site as an independent university.

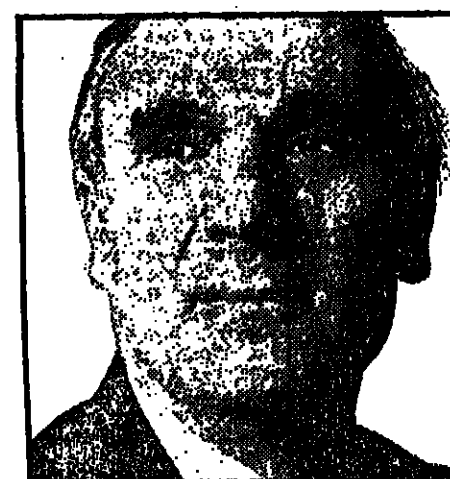
Talks between college representatives and the UGC led to agreement that both suggestions should be considered, but a subsequent mission for independent status at a 12-acre site in Fulham was rejected by the UGC.

Despite a report from the college's academic advisory committee that the academic plans could best be achieved by independent status, the Governors reluctantly came to the conclusion that the college could

not successfully petition for independence. While retaining their belief that the college could best realize its academic plan by becoming an independent university, they agreed to enter into further discussions with the University of London on the possible acceptance of the college as an independent school of the University of London.

On December 22, 1971, a Royal Charter granted by the Queen, Chelsea College was formally established as a school of the University of London.

Chelsea College—A History, edited by Harold Silver and S. John Teague, and published by Chelsea College, University of London. £3.50. Maggie Richards



"The relationship between education and industrial training is complementary and the two areas should be brought together. . . ." Francis Haycraft, chief officer of the Technician Education Council. NUS conference York University, January 1977.



"BEC will stop this proliferation of certificates and diplomas and introduce a standard award system. . . ." Bruce Lockhart, chairman of the Business Education Council confirming the council's first policy statement. In London, March 1976.



## OU broadcasting

Sir—As the director of one of the larger closed circuit television organisations in this country, and an OU course tutor for the past four years, I should like to comment on Merivau Cole's interesting letter (THES, January 13) concerning the pressures on OU course teams to bid for broadcasting funds, and particularly on Tim Robinson's earlier suggestion that CCTV "organised through the study centres" might replace broadcasting in OU multi-media packages.

It seemed odd to many of the 250 members of NECTA (National Educational Closed Circuit Television Association) for years that no serious consideration has been given by the OU to the possibility of working with us to create, store and replay television material to OU students.

After all, we are responsible for just those purposes in "conventional" universities, polytechnics, colleges and schools: most OU study centres are in fact institutions in which CCTV material is constantly being created, recorded off-air and held as a library resource for the full-time students.

Merivau Cole suggests that much of the current OU television production could and should be cut. Some course teams would certainly agree with him, and, indeed, others (e.g. DE355 "Mass Communications and Society", on which I taught last year) might like greater opportunity to show television material.

But it certainly does not have to be broadcast, to be available to students via institutions that already exist, are sympathetic to the OU, and would welcome the additional minor income that might be offered through the letting of facilities to OU students.

As far as production itself is concerned, some NECTA members could certainly produce material well up to the technical and creative standard of at least some BBC OU output; the more ambitious (and indeed excellent) BBC material could only be made by a sophisticated broadcasting organization, but Merivau Cole is right to criticize some of the rest as produced at present; there is no knowing what ingenious co-productions might result if OU course teams worked with audio-visual services from other universities, as well as with the BBC.

Finally, his confidence in the effectiveness of CCTV and local radio seems to me to be unsupported by any strong confirming evidence from such projects as have been undertaken.

Of course the Open University's materials and methods have weaknesses but these are very largely defects of virtues, and denigration of the type employed in this article is petty. The strengths of the Open University—so vastly more important than its weaknesses—would be lost in the substitutions proposed.

Yours faithfully,  
ROBIN MOSS,  
Director of the University Audio-Visual Service,  
Leeds.

## Critical report

Sir—I suspect your reporter has not read the document which the Open University methods review group prepared on the faculty of social sciences and to which her article refers. (THES, January 13) If she had she might have realized that it has been compiled in a way which pays scant attention to the most elementary precautions social scientists take in assessing and evaluating their data.

The validity of the conclusions drawn by the group from their findings must therefore be seriously questioned (even though a number of their recommendations reveal an appealing common sense). In particular, I should like to draw attention to the fact that this report is based on purely verbal comments, some of them little more than a column.

The report explicitly states that members of the group did not look at the courses on which they commented, nor, one must suspect, did they draw on independent research evidence on how these courses have fared with students and the part-time teaching staff. Such evidence might have enabled the group to arrive at more balanced and more valid judgments since verbal comments could have been weighed against other information.

For instance, course teams are castigated for the conflicts which

Sir—Tim Robinson in his article (THES, January 6) attacks the Open University on the grounds that it emphasizes presentation at the expense of content and that it alienates its students by centralized over-direction and leads them to lay undue emphasis on mark-gaining. His solution is decentralization and use of closed-circuit television and local radio.

But all other teaching in higher education is decentralized: is there not room for one centralized form? I have no direct knowledge of the mass communication unit for which Tim Robinson is a tutor but I have knowledge of a number of other units, including experience gained as a student of two.

Generalizing from my experience—as he appears to generalize from his—I would say that the standards set by the OU in the quality of the material offered are higher overall than can be found in most face-to-face courses; similarly in relation to the constructive appraisal of written work, the standard of the OU through its local tutors is again usually greatly superior to that obtaining generally in comparable institutions offering full-time courses.

This is not to deny what decentralized face-to-face higher education has to offer, but to recognize that in the area of multi-media standard it has much to learn from the OU.

Tim Robinson's criticisms also suggest to me that he has limited previous knowledge of mature students: I think anybody who has taught such students for examinable courses will have become aware of a tendency in a number towards some nervous over-assessment (for understandable reasons).

Finally, his confidence in the effectiveness of CCTV and local radio seems to me to be unsupported by any strong confirming evidence from such projects as have been undertaken.

Of course the Open University's materials and methods have weaknesses but these are very largely defects of virtues, and denigration of the type employed in this article is petty. The strengths of the Open University—so vastly more important than its weaknesses—would be lost in the substitutions proposed.

Yours faithfully,  
ROSEMARY BERSFORD,  
Pro-Rector,  
Polytechnic of Central London.

## Polys and the shop floor

Sir—Richard Lowndes argues that polytechnic first degree courses meet shop floor demands (THES, January 6). I would be interested to know to what extent the conclusions reached are based upon factual information, since the article, though extensive in scope, where in an opinion survey.

In any case, polytechnics, and in particular many polytechnic engineering courses are relatively new, and it is still rather early to assert that a certain type of "failure" has occurred, and many of the ideas which Mr Lowndes puts forward are indeed embodied in courses already in operation.

Typically polytechnic engineering courses do introduce undergraduates to the principles of management, finance, human relations, such of which is important in the context of manufacturing industry. There are two fundamental reasons why it would be wrong to increase such components, or aspects of engineering degree courses.

Firstly, such courses were lengthened this would lead to a dilution of the engineering component. Secondly, the deeper study of such aspects is better dealt with when the student has some reasonable life experience of manufacturing industry, and has passed the 18 to 20 age range.

The situation concerning course provision is that there are relatively few production engineering first degree courses, and in general the enrolments have been considerably below the maximum capacity, although recent trends have narrowed the gap. Within the majority of mechanical engineering first degree courses, of which there are many more, are "production" or "manufacturing" studies, in some cases providing substantial optional specializations.

Many graduates from these courses pursue successful careers in manufacturing industry. Further, requests for approval to provide degrees of a production/manufacturing type have been rejected on the grounds of insufficient demand.

The significance of these facts is that there is a limited pool of youngsters who at the start of entering a degree course, have positively decided to pursue a career in some aspect of manufacturing. Most youngsters prefer to leave their options open by choosing a mechanical engineering degree, affording various specializations in the later stages of the course. Such decisions by successful students are understandable.

Accepting then that many graduates move into manufacturing careers via a mechanical engineering degree it must be appreciated that they will have pursued a relatively broadly based course and cannot therefore be expected to have the depth and range of production or manufacturing expertise as graduates in those disciplines.

Moreover, a first degree course in engineering provides a basic training which not only imparts knowledge but also disciplines the student into problem recognition, problem analysis and problem solving. Simultaneously it develops his creative and synthesis abilities. Each of these aspects is relevant to the graduate who moves into manufacturing industry.

Perhaps of greater significance than the three or four year undergraduate period, however, is the three or four year period immediately following graduation. The typical mechanical or production engineering graduate, as a basic knowledge and an ability to tackle engineering problems, usually over a broad range. He will, however, become a chartered engineer only after further training and work of a responsible nature.

It is easy to lay the blame for shortcomings at the door of higher education, but it is important first to analyse the whole. The vital key to the solution of the problems of manufacturing industry and even if it is the cooperation and assistance of others including the schools, career advisory services, industry and government are likely to be necessary ingredients.

I, MATHER,  
Head of the department of mechanical, production and chemical engineering, Manchester Polytechnic.

## What are the world's universities up to?

As a regular reader of *The Times* and one who is a frequent visitor to universities and medical schools in various parts of the world, I am seriously concerned about the future of the universities of the world. I take the issue of December 23 as an example of one of the serious troubles in the Spanish universities in the post-Franco period and of a nation at the AUU council meeting, viewing with concern West Germany's policy of applying to universities "political discrimination in appointing government employees".

In many parts of the world I have seen impoverished universities which are grossly overcrowded with students who are meant to be studying for quite worthless degrees. I suspect that such places may be considered as an alternative for their incumbents to the ranks of the unemployed, the worst a reminder that universities are not a refuge of the intellectual manpower of a country.

What are the reasons for this appalling state in which so many universities find themselves? I suspect that the main culprit must be the politicians but they do not act in an ignorant or motivated way when the universities were mainly small autonomous institutions, which did not expect government support, they were of little interest to the politicians.

Later the universities made the case that they were important institutions for professional training and were worthy of government support. The public, therefore, demanded that they should open their doors more widely and governments saw the need for expansion.

There are, of course, political cross-currents that confuse matters. Thus most universities are under direct control and often are under a dual control involving both the federal government and the local provincial government. University students have rightly been regarded as a potential threat to the established government so that there has been a love-hate relationship between a major influence on university expansion has come from the migration of students. Until recently many of the students, in any particular university, have come from overseas and there has been a tacit agreement that this was a good idea. Even in a country like Pakistan I understand that 10 per cent of the students at the University of Karachi are from overseas, mainly from countries that are unable to provide a university education in a particular field of study.

An even more important influence on the university population has been the opportunity for migration once the study has been completed. We see this most impressively in medicine. The United States in particular has taken a vast number of immigrant doctors of medicine which has drained the places have been taken by those from Western Europe and those from Asia.

We are about to see a major change in this migration of doctors. The United States has become much more restrictive, as have Canada and Australia, and many countries more doctors are producing more doctors than the home country will be prepared to employ. This means that the migration from Asia will dry up and that even the doctors from Europe rather than Pakistan.

If we turn to science graduates the numbers involved are smaller. Here the aim has often been to obtain a BSc somehow, somewhere, so that one has an entrée to a higher degree in another country, especially the USA, Canada or the United Kingdom. This scheme is falling apart for three main reasons. First, the employment prospects of scientists has receded, second the true value of the first degree has been realized, and third there is a reduction in opportunities for study for a higher degree.

I have come to believe that the more underdeveloped a country the more important are paper qualifications. A corollary is that a person country is not going to consider a job as a technician, whereas this is perfectly acceptable in a developed country. The result is that developed countries often have a surplus

## What are the world's universities up to?

of science graduates, whose training is virtually worthless, but a serious shortage of technicians. The same applies often to medicine and nursing. No one should think that my views about worthless degrees are limited to the fields of science and medicine, apply only to developed countries. My view is that United Kingdom universities are so far in a relatively good position. I am, however, concerned about some of its polytechnics in the United Kingdom who are awarding CNAAs degrees. My limited experience suggests that a thorough investigation of the degrees awarded by polytechnics would be valuable.

But what are we to make of the situation in Europe? Those of us who have read the report of the International Council on the Future of the University on the universities of Western Germany, can only be amazed: how could such a great universities, have we not read recently in *The Times* that in Austria it is the democratic right of an student with the minimum credit of the facilities available? What of the situation in France where we are told that the facilities provided in the science and medical faculties come anywhere near a matching the number of enrolled students. The position in Sweden seems to be moving into a completely uncharted field of trying to match the supply and demand of professionals trained by the universities.

In a sense though I feel that if Western Europe likes to destroy its universities that it is a pity but at least that is what the public seem to have wanted. The position in the developing countries is much more in that the governments are short of experts and in any case the political decisions are taken on a short-term basis that ill suits the development of a university.

If I am correct in my assessment I ask myself what it is that a patriotic British academic can do to help. First to be aware of the situation, note the problems in other countries not so far away, and do one's best to see that one's own university does not make the same mistakes.

Second, inform the politicians and the public. It is my contention that the British people not only do not know what is happening elsewhere but do not appreciate what is good about our own universities.

Third, do not lower your standards for overseas students, this helps no one. Give every consideration to those overseas students but do not let them come to the UK as you apply to those from the United Kingdom. In fact, when you award a PhD to an overseas student remember that he will be expected to do greater qualities on his return to his own country than will be expected of a United Kingdom home-based PhD student.

Fourth, help the overseas universities whenever possible. We have a splendid record of aid from the British council, the IUC and the ODM, and they need your assistance. Fifth, and in some ways most important, we in the universities need to work together in the defence of the concept of the university. The International Council on the Future of the University has the right idea but perhaps will be too slow.

The academics in many overseas universities have given up, been bullied by their governments and students and have lost the way so that they know in their hearts that they have a futile job. Lots of old programmes have folded, not only is the aid not repaid, but when it is it is ill spent on equipment which on arrival never works. Even the politicians are known to say that visiting academics are not outspoken enough and hence do not do much to assist those in need. What we want is an organization that can continually remind the politicians of the world that a university is a wonderfully valuable place out that it is a delicate flower that needs nourishment in the right conditions and that if it is not looked after it will become an expensive and worthless liability.

Peter Campbell  
The author is director of the Courtwell Institute of Biochemistry at the Middlesex Hospital Medical School, London.

Classified advertisements continued from Page 27

## Overseas continued

**THE NEW SOUTH WALES INSTITUTE OF TECHNOLOGY SYDNEY, AUSTRALIA**

The New South Wales Institute of Technology is a corporate body established to provide a wide range of professional courses for those entering or already employed in industry, government or technological fields. Applications are now invited for the following academic positions in various faculties:

## FACULTY OF BUSINESS STUDIES SENIOR LECTURER IN ACCOUNTING

The Faculty of Business Studies currently offers a Bachelor of Business degree with concentrations in Accounting, Marketing, Operations Management and Public Administration. In addition, the School offers undergraduate programmes leading to the award of Bachelor degrees and Graduate Diplomas in Accounting, Financial Accounting, Auditing, and Management Accounting. The position of Senior Lecturer in Accounting requires a minimum of five years' experience in public accounting, commerce or government. The position carries responsibility for providing academic leadership in the School in appropriate disciplinary areas and in undertaking specific administrative duties within the School and the Faculty.

## FACULTY OF ENGINEERING SENIOR LECTURER IN DIGITAL ELECTRONICS

The Faculty of Engineering comprises the Schools of Civil Engineering, Electrical Engineering and Mechanical Engineering. The School of Electrical Engineering offers undergraduate programmes leading to the award of Bachelor degrees and Graduate Diplomas in Electrical Engineering. The position of Senior Lecturer in Digital Electronics requires a minimum of five years' experience in digital electronics, preferably in the field of microprocessor-based systems and digital communications.

## FACULTY OF MATHEMATICAL AND COMPUTING SCIENCES SENIOR LECTURER IN COMPUTING METHODS

The School of Computing Sciences is seeking applications from those with high academic qualifications and experience in computing methods to conduct courses which combine mathematics and computing. Considerable experience in computing and systems software is desirable plus a strong mathematical background. Electives are available for students to combine mathematics and computing in their degree course. The successful applicant will be required to further develop these electives. A person with interests in Numerical Analysis, Modelling of Automatic Control Theory or applications of Operations Research may possess the type of background sought. Salary will be in the range of \$18,800-\$22,200. With consent of Council, successful candidates are permitted to undertake limited consulting work. Fare and a contribution towards removal and initial accommodation expenses are provided for interstate appointees. A housing loan scheme is also available. Applications close on February 24, 1978. Applicants should arrange for three confidential referees' reports to arrive by the same date. Written applications should include, address, present position, personal particulars, evidence of qualifications, work and teaching experience, affiliations, publications, research work undertaken and the names and addresses of the referees contacted. Applications and referees' reports are to be sent to: THE AGENCY-GENERAL FOR N.S.W., N.S.W. Government Offices, 110 The Strand, LONDON, WC2N 2LZ, ENGLAND.

## General Vacancies

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lector K13684-K14488 pa, Senior Lecturer K13684-K14004 pa (K14115) and K14005 pa (K14115) may supplement salaries in the range £12,043-£14,339 pa (excluding pension) and £14,340-£16,334 pa (including pension) (£2,000-£2,349 pa weighting) for the post appointed to replace annually and normally free of all tax) and provide children's education and holiday expenses. Terms of service include family passages; scheme; regular overseas leave and various allowances. Detailed applications (two copies) together with curriculum vitae and naming three referees, must be sent airmail by 22 February 1978, to the Director of Staff Training, University of Nairobi, PO Box 30197, Nairobi, Kenya. The successful candidate should send one copy to UK International Council, 80/81 Victoria Street, London W1P 0DT. Further particulars may be obtained from either



## BELFAST

Following the 1990-91 season, the Department of Fisheries and Aquaculture has been working to improve the management of the fishery. This includes the implementation of a new management plan, the establishment of a fishery management committee, and the implementation of a new licensing system. The Department is also working to improve the infrastructure of the fishery, including the construction of a new fish processing plant and the improvement of the fish landing facilities. The Department is also working to improve the marketing of the fish, including the establishment of a new fish marketing board and the implementation of a new marketing plan. The Department is also working to improve the training of the fishery workers, including the establishment of a new fishery training center and the implementation of a new training program. The Department is also working to improve the research and development of the fishery, including the establishment of a new fishery research center and the implementation of a new research program. The Department is also working to improve the conservation of the fishery, including the establishment of a new fishery conservation area and the implementation of a new conservation plan. The Department is also working to improve the management of the fishery, including the establishment of a new fishery management committee and the implementation of a new management plan. The Department is also working to improve the infrastructure of the fishery, including the construction of a new fish processing plant and the improvement of the fish landing facilities. The Department is also working to improve the marketing of the fish, including the establishment of a new fish marketing board and the implementation of a new marketing plan. The Department is also working to improve the training of the fishery workers, including the establishment of a new fishery training center and the implementation of a new training program. The Department is also working to improve the research and development of the fishery, including the establishment of a new fishery research center and the implementation of a new research program. The Department is also working to improve the conservation of the fishery, including the establishment of a new fishery conservation area and the implementation of a new conservation plan.

on public life and society.  
A further similarity may  
be obtained from the Presi-  
dent's Office. The Queen's  
University of Belfast B19 RAN  
Fourth Floor, Belfast, 7, Chichester  
Road, Belfast 7, N.I. 96A.  
\*Please quote Ref. B19 RAN.

The appointment is liable for one year commencing at such date as possible.

Salary scale £5,555 to £7,500 per annum with 10% increments.

Applications form obtainable from the Registrar, University of Stirling, Stirling, Mid. Scotland, Tel. 0876 330000, ext. 234. For written completed applications should be returned not later than Monday, February 20, 1979, quoting reference CH.216/178.9.

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**WARWICK**  
**THE UNIVERSITY**  
**PROFESSORSHIP OF**

Salary in the professional range: minimum £10,100, maximum (under review) Superannuation and removal allowances payable.

Further particulars may be obtained from the Academic Registrar, University of Warwick, Coventry CV4 7AL, to whom applications (with degrees, naming three referees) should be sent by 15 February 1978. Please quote Ref. No. 25 R-78.

**SOUTHAMPTON**  
**THE UNIVERSITY**

the post of LECTURER in the DEPARTMENT of HISTORICAL SCIENCES should have a good knowledge of English and French and be qualified to teach history and European history between about 1650 and 1760 at University level.

Salary scale: £3,335 (n.65) (under review). Appointment will be made one of the first five points available. The initial salary will depend on qualifications and experience.

Further particulars may be obtained from Mr. F. W. J. van der Vliet, The University, School of Arts, Nieuwe Kerk 17, 3312 CA Utrecht, The Netherlands. Applications (7 copies for the United Kingdom applicants should be sent not later than 15 January 1980). For a quota ref.: NIEB/890.

Experience Courses Unit  
association with the  
**POLYTECHNIC OF CENTRAL  
LONDON**  
**EDUCATIONAL  
DEVELOPMENT UNIT**  
**SENIOR RESEARCH FELLOW**

The Open University of the Polytechnic of Central London is undertaking a project in the field of survival training for school teachers. A Research Fellow is required to lead a team of a research team which consist of three directors (two from within the Open University and one from the Polytechnic of Central London). Research Fellow him/her and a Project Co-ordinator

Applicants should have a good honours degree and vocational experience in schools and in teaching. In-service experience is also important. An ability to work as part of a team is essential.

The salary scale will range from £6,443 to £7,981. The closing date for applications is 14th April 1986.

Richard Conrad, President  
 The Personnel Man  
 #21, The Open Union  
 PO Box 78, Walton Hall,  
 ion Keynes MK7 6AL, o  
 telephone from Milton K  
 03488 Closing date  
 applications, 1 February 7.



## Universities continued

**READING**  
THE UNIVERSITY  
The University of Reading is seeking applications for the post of Lecturer in the Department of English Literature. The successful candidate will be responsible for the teaching of English Literature to students on the B.A. and M.A. courses. The post is full-time and involves a salary of £12,000 per annum. Applications should be sent to the Director of Studies, Department of English Literature, University of Reading, Whiteknights, Reading RG6 2AA. Closing date: 15 February 1978.

**SOUTHAMPTON**  
THE UNIVERSITY  
The University of Southampton is seeking applications for the post of Lecturer in the Department of English Literature. The successful candidate will be responsible for the teaching of English Literature to students on the B.A. and M.A. courses. The post is full-time and involves a salary of £12,000 per annum. Applications should be sent to the Director of Studies, Department of English Literature, University of Southampton, Southampton SO9 4NH. Closing date: 15 February 1978.

**THE OPEN UNIVERSITY**  
The Open University is seeking applications for the post of Lecturer in the Department of English Literature. The successful candidate will be responsible for the teaching of English Literature to students on the B.A. and M.A. courses. The post is full-time and involves a salary of £12,000 per annum. Applications should be sent to the Director of Studies, Department of English Literature, The Open University, Milton Keynes MK6 3AL. Closing date: 15 February 1978.

**LONDON**  
THE UNIVERSITY  
The University of London is seeking applications for the post of Lecturer in the Department of English Literature. The successful candidate will be responsible for the teaching of English Literature to students on the B.A. and M.A. courses. The post is full-time and involves a salary of £12,000 per annum. Applications should be sent to the Director of Studies, Department of English Literature, University of London, Gower Street, London WC1E 6BT. Closing date: 15 February 1978.

## Fellowships and Studentships

**LANCASTER**  
THE UNIVERSITY  
The University of Lancaster is seeking applications for the post of Lecturer in the Department of English Literature. The successful candidate will be responsible for the teaching of English Literature to students on the B.A. and M.A. courses. The post is full-time and involves a salary of £12,000 per annum. Applications should be sent to the Director of Studies, Department of English Literature, University of Lancaster, Bailrigg, Lancaster LA1 4YW. Closing date: 15 February 1978.

**St Catharine's College, Cambridge**  
**Research Studentships**  
The University of Cambridge is seeking applications for research studentships in the Department of English Literature. The successful candidate will be responsible for the teaching of English Literature to students on the B.A. and M.A. courses. The post is full-time and involves a salary of £12,000 per annum. Applications should be sent to the Director of Studies, Department of English Literature, University of Cambridge, Cambridge CB2 3RQ. Closing date: 15 February 1978.

**Lincoln College, Oxford, OX1 3DR**  
**COOK JUNIOR RESEARCH FELLOWSHIP IN ECOLOGY**  
The College invites applications from graduates of either sex under 28 years of age on the 1st October 1978 for a Cook Junior Research Fellowship in Ecology, tenable for three years from that date. The Fellow will be expected to engage in research on the relation of living organisms to their natural environment. Applications should be sent to the Director, Lincoln College, Oxford, OX1 3DR, from whom further particulars about the appointment may be obtained.

**ST ANNE'S COLLEGE OXFORD**  
**Fulford Research Fellowship**  
Applications are invited for the Fulford Research Fellowship, tenable for one year in the first instance, but renewable for a second year. The Fellow will be expected to engage in research on the relation of living organisms to their natural environment. Applications should be sent to the Director, St Anne's College, Oxford, OX2 6HH. Closing date: March 31, 1978.

**CAMBRIDGE**  
THE UNIVERSITY  
The University of Cambridge is seeking applications for the post of Lecturer in the Department of English Literature. The successful candidate will be responsible for the teaching of English Literature to students on the B.A. and M.A. courses. The post is full-time and involves a salary of £12,000 per annum. Applications should be sent to the Director of Studies, Department of English Literature, University of Cambridge, Cambridge CB2 3RQ. Closing date: 15 February 1978.

**Polytechnics**  
**DIRECTOR**  
for  
The Midland Study Centre  
for the Building Team  
£5,523-£6,447  
City of Birmingham Polytechnic

The Midland Study Centre is a new organization intended to promote continuing education on a building team basis. The Centre will be run for and by practitioners in cooperation with the Universities of Birmingham and Aston as well as professional institutions. The successful candidate will be required to undertake some teaching duties and should have an academic or professional qualification with appropriate experience of the building industry or teaching. The appointment will be on a fixed-term contract for three years in the first instance. Further details and application forms (to be returned by 15 February 1978) from: The Personnel Office, City of Birmingham Polytechnic (T118), F Block, Perry Bar, Birmingham B42 2SU.

**Leicester Polytechnic**  
Post No. 1  
Professor of Fashion  
and Head of the School of Fashion & Textile Design  
Post No. 28  
Professor of Fine Art  
and Head of the School of Fine Art  
Post No. 463  
Professor of Textile Technology  
and Head of the School of Textile & Knitwear Technology

Applications are invited from suitably qualified candidates for the above Chairs associated with Headships of Schools. The appointees will be expected to develop teaching, research and consultancy in the School and offer a specialism appropriate to this work. Salary: £8,529 - £9,093 (under review). Further particulars and application forms from: Staffing Officer, Leicester Polytechnic, P.O. Box 143, Leicester, LE1 0BH. Applications close on 1 March 1978.

**Department of Management Development**  
**Lecturer II/Senior Lecturer in Management Studies**  
(Two Posts)  
One appointment will be in the area of behavioural studies, the other in that of studies in Management concerned with general management topics. Most of the work will be within the area of Management Studies programmes. Successful candidates will have business experience in management as well as appropriate qualifications. Salary Scales: Lecturer II - £3,270-£5,493; Senior Lecturer - £5,031-£6,417. Further details and application forms from: The Senior Administrative Officer (2), North Essex Technical College, Forest Road, London E17 4JH. Telephone: 01-827 2272, Extension 20. Closing date: Friday, 10 February 1978.

**ARMC**  
Anglian Regional Management Centre  
NORTH EAST LONDON POLYTECHNIC - ESSEX COUNTY COUNCIL

**PLYMOUTH POLYTECHNIC**  
Learning Resources Centre  
**CHIEF CATALOGUER**  
Salary: £3,825-£4,005 (+supplement range: £518.88-£520.58)  
This new post has been established at a time when changes to automated systems are being planned, and offers challenge and demand. Applicants must be professionally qualified graduates with good cataloguing experience preferably with automated systems in a large academic library. Application forms, to be returned by 10th February, 1978, can be obtained with further particulars from the Personnel Office.

**PLYMOUTH POLYTECHNIC**  
School of Mathematical Sciences  
**Lecturer II Mathematics**  
Salary: £3,270-£5,493 (+supplement range: £485-£492 p.a.)  
Applicants should have a first class honours degree in Mathematics or an equivalent qualification. Further details and application forms from: The Personnel Office, Plymouth Polytechnic, Drake Circus, Plymouth PL4 8AA.

**Leicester Polytechnic**  
Post No. 1  
Professor of Fashion  
and Head of the School of Fashion & Textile Design  
Post No. 28  
Professor of Fine Art  
and Head of the School of Fine Art  
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School of Mathematical Sciences  
**Lecturer II Mathematics**  
Salary: £3,270-£5,493 (+supplement range: £485-£492 p.a.)  
Applicants should have a first class honours degree in Mathematics or an equivalent qualification. Further details and application forms from: The Personnel Office, Plymouth Polytechnic, Drake Circus, Plymouth PL4 8AA.

**Colleges of Higher Education**  
**Senior Lecturer in Drama**  
Required as soon as possible  
The College is seeking for a fully qualified and professional stage experience and an appropriate academic background who will lead the Drama work of the Faculty and assume responsibility for running a new Drama degree through to C.A.A. validation. Salary: Senior Lecturer £6,432-£8,070 p.a.

**Crewe+Alsager College of Higher Education**  
Details and application forms obtainable from the Clerk to the Governors, Crewe + Alsager College of Higher Education, Crewe Road, Crewe, CW1 1DU, to whom they should be returned by Wednesday, 15th February, 1978.

**Crewe+Alsager College of Higher Education**  
**Faculty of Educational and Professional Studies**  
**Reader in Educational Research and Development**  
Required as soon as possible - Candidates should have high academic qualifications and the ability, professional experience and personality to enable them to make a major contribution to teacher education within the college. The person appointed must be experienced in the supervision of Educational Research and will be required to lead and initiate appropriate research programmes. The successful candidate will be responsible for the development of an M.Ed. degree. Salary scale: Reader £6,432-£8,070 p.a. Application forms and further particulars may be obtained from the Clerk to the Governors, Crewe + Alsager College of Higher Education, Crewe Road, Crewe, CW1 1DU (Tel: Crewe 583881), to whom they should be returned not later than 15th February, 1978.

**THE NATIONAL INSTITUTE FOR HIGHER EDUCATION, LIMERICK**  
**APPLIED MATHEMATICS LECTURER**  
The person appointed will have expertise in the application of mathematics to problems in engineering, the physical sciences or business. While no appropriate honours degree in the subject is essential, a qualification in it is likely that the successful applicant will hold a postgraduate qualification. The appointee will contribute to existing courses and to the development of new courses. Salary: £5,093 to £7,455. Plus £100 per annum (marriage) and £70 per annum (child) allowances, together with other benefits. Application material available from the Personnel Office, The National Institute for Higher Education, Limerick, to be completed and returned by Friday, 17 February, 1978.

**Cambridgeshire College of Arts and Technology**  
**Head of Department of Management and Business Studies**  
required from 1 September, 1978. The Department has 50 full-time and about 50 part-time staff. Its work covers (i) Higher and National (BEC) courses in Business Studies (ONC, OND, HNC & HND) and ONC in Public Administration, (ii) professional courses in Accountancy, Banking and Law, (iii) Management (incl. DMS) and supervisory courses, (iv) secretarial courses, (v) GCE A level courses, (vi) CNA Honours degree courses in Economics and Sociology in 2 subject degrees and ancillary in Geography, and (vii) miscellaneous courses, e.g., for hospital administrators. About 450 full-time students and 1,000 part-time students follow these courses. Salary: Head of Department Grade VI, £8,037-£8,913 plus supplement. Further particulars and application forms from Principal, CCAT, Cambridge CB1 2AJ. Forms should be returned by 15 February, 1978.

**PORTSMOUTH**  
THE POLYTECHNIC  
DEPARTMENT OF SOCIAL SCIENCES  
**LECTURER IN POLITICS**  
Applications are invited for the post of Lecturer in Politics. The successful candidate will be responsible for the teaching of Politics to students on the B.A. and M.A. courses. The post is full-time and involves a salary of £12,000 per annum. Applications should be sent to the Director of Studies, Department of Social Sciences, Portsmouth Polytechnic, Portsmouth PO6 3LJ. Closing date: 15 February 1978.

**London College of Fashion**  
Oxford Circus, W 1.  
**Department of Clothing Technology**  
**Senior Lecturer in Clothing Technology**  
To teach the technology of clothing manufacture to students on a range of courses with emphasis on design and work. To engage in curriculum development in the area of clothing technology. Candidates must have a first class honours degree in a relevant science or technology and preferably a second degree in an area related to clothing technology. Further details and application forms from: The Principal, Southampton College of Technology, East Park Terrace, Southampton. Telephone: 0703 29361.

**Crewe+Alsager College of Higher Education**  
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**Faculty of Educational and Professional Studies**  
**Reader in Educational Research and Development**  
Required as soon as possible - Candidates should have high academic qualifications and the ability, professional experience and personality to enable them to make a major contribution to teacher education within the college. The person appointed must be experienced in the supervision of Educational Research and will be required to lead and initiate appropriate research programmes. The successful candidate will be responsible for the development of an M.Ed. degree. Salary scale: Reader £6,432-£8,070 p.a. Application forms and further particulars may be obtained from the Clerk to the Governors, Crewe + Alsager College of Higher Education, Crewe Road, Crewe, CW1 1DU (Tel: Crewe 583881), to whom they should be returned not later than 15th February, 1978.

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THE POLYTECHNIC  
DEPARTMENT OF SOCIAL SCIENCES  
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**Colleges and Institutes of Technology**  
**Senior Lecturer in Clothing Technology**  
To teach the technology of clothing manufacture to students on a range of courses with emphasis on design and work. To engage in curriculum development in the area of clothing technology. Candidates must have a first class honours degree in a relevant science or technology and preferably a second degree in an area related to clothing technology. Further details and application forms from: The Principal, Southampton College of Technology, East Park Terrace, Southampton. Telephone: 0703 29361.

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**Cambridgeshire College of Arts and Technology**  
**Head of Department of Management and Business Studies**  
required from 1 September, 1978. The Department has 50 full-time and about 50 part-time staff. Its work covers (i) Higher and National (BEC) courses in Business Studies (ONC, OND, HNC & HND) and ONC in Public Administration, (ii) professional courses in Accountancy, Banking and Law, (iii) Management (incl. DMS) and supervisory courses, (iv) secretarial courses, (v) GCE A level courses, (vi) CNA Honours degree courses in Economics and Sociology in 2 subject degrees and ancillary in Geography, and (vii) miscellaneous courses, e.g., for hospital administrators. About 450 full-time students and 1,000 part-time students follow these courses. Salary: Head of Department Grade VI, £8,037-£8,913 plus supplement. Further particulars and application forms from Principal, CCAT, Cambridge CB1 2AJ. Forms should be returned by 15 February, 1978.

**PORTSMOUTH**  
THE POLYTECHNIC  
DEPARTMENT OF SOCIAL SCIENCES  
**LECTURER IN POLITICS**  
Applications are invited for the post of Lecturer in Politics. The successful candidate will be responsible for the teaching of Politics to students on the B.A. and M.A. courses. The post is full-time and involves a salary of £12,000 per annum. Applications should be sent to the Director of Studies, Department of Social Sciences, Portsmouth Polytechnic, Portsmouth PO6 3LJ. Closing date: 15 February 1978.



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